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# AMERICAN INEMATOGRAPHER

THE MOTION PICTURE CAMERA MAGAZINE

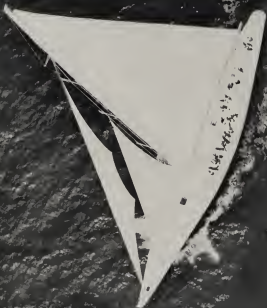


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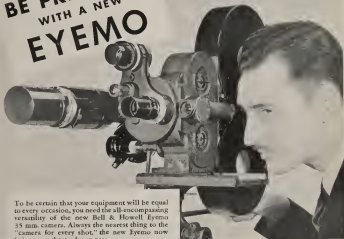
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# WRITE YOUR OWN HEAD

By GEORGE BLAISDELL

## GO SEE KITTY CLANCY

**A**BOVE the horizon scars a new player. It's Kitty Clancy, four years old, and if she remains as free of affectation, of consciousness of the vicinity of a camera, if she retains so notably the knack of establishing herself as one of the principals in any scene in which she is appointed—as she establishes herself in "Midnight Madonna"—then indeed we are going to hear much of Kitty and her work in the months and years to come.

Her debut in dialogue in this stirring Paramount production seems to be about perfect. Her only previous experience was as an extra at the Hal Roach studio. Kitty will entertain and completely exclaim that uncounted number of old connoisseurs who look upon the average child performer as an abomination.

That the little lady in a physical way reminds us of Shirley Temple as Shirley was at the same age undoubtedly will prove a handicap rather than any possible help to the newcomer. Her parents incidentally are non-professionals, her father being a railroad travel bureau manager on the east coast.

## PUTTING US STRAIGHT

**O**UR compliments and thanks to Johnny Mscall, A.S.C., whose memory of an incident in 1921 topped ours. It was Henry King and not Charles Brabin who directed "Tollable David," and it was made by and for First National and not independently and afterward sold to Universal. "Driver" was made in 1922 by Charles Brabin and sold to Universal.

We were right when we said Ernest Torrence played in "Tollable David." We might so have continued to be right had we not attempted to take in too much territory—and talked too much.

Here enters Jim Shackelford, A.S.C., explorer in the realms of photography and that Anna spot sometimes known as the cradle of the world, who calls attention on Page 375 (July 1936) to a caption under a picture of a man at a typewriter set up in a desert. Now we know why in the original still we were interested in the lineaments of the man standing alongside the typist rather than the man at the machine.

To us the latter passed as Charles W. Herbert, A.S.C., without any question. Really it was Tay Garnett,

with Jim Shackelford as the rear seat driver. In this instance general morals apply: Don't file photos without captions. Don't accept photos filed without captions.

So, with thanks to the discoverers of the muffs and apologies to the injured, a couple of guilty maggs ask to be absolved (for the present) of further application of sackcloth and ashes.

On our side of the fence, however, are two distinct bits of evidence the book is being read. That's something.

And now comes a letter from "Herb," taking it on the hoof from his camera but putting in some tough licks around his Montana cabin, who "is wondering what the guy in the picture in Egypt will think when he sees his picture with Charles Herbert under it. It surely is funny, though there is a sort of a family resemblance, but I swear by all that's holy it's not me."

Walter Strenger, A.S.C., hearing the controversy, declared he was a longtime friend of "Herb," and the picture passed him with his sleek.

And the editor bumps into Jim Shackelford, and Shack greets him as if nothing had happened. And a salutation comes from Tay Garnett at the UA with an invitation to drop in and say hello. It sounded cordial, too, but of course a guy can't always be exactly sure.

## SCHOOLMA'AM IN FILMS

**T**HAT was a real nice function, that educational conference on July 16 and 17 of the Hollywood Motion Picture Forum. It was the third annual, and was by far and away the outstanding of the three. There is every reason to believe next year the first session will be called for a large auditorium.

The conference demonstrated that the schoolma'am is a fighter for the use of the film in schools—that many of them are spending their own money

## Battling Through

He who would highly win bold mountain top

Must first to lowly floor of valley drop.

The few who lightly gain the spreading view

Know not the pounding thrill of battling through.

in the effort to see first the children get the films and in the second place doing their utmost to convince sluggish school authorities of the need for the films—authorities who too often happen to be better versed in the arts of politics than in the necessities of the schools.

These schoolma'ams are as militant as they are intelligent—and the self-sacrificing men who are fighting the same battle give these women full acknowledgement and support.

## THIRTEEN LINES

**T**HE make-up tells us we are thirteen lines shy of filling this column. If it were permissible to record an exceedingly interesting recent heart-to-heart talk between three top-flight cameramen in which they got down to brass tacks in their discussion of some of the handicaps they encountered on rare occasions in their efforts to surmount temperamental hurdles there would be more than thirteen lines. M-m-m!

## ERIC BLORE, COMEDIAN

**D**ID YOU ever stick a pin in a thought? If you think you can, try it on the thought that Eric Blore is a candidate for the award to be handed that actor doing the greatest bit of character work during the year. We give you his jail scene in "Shall We Dance?"

Of course, up to this writing we have only seen this subject three times—due partly to the fact that this dual program thing does make strange bedfellows—but this particular scene grows in its pull on the misfit. Then here's another thought:

Any man who can take a scene from Eddie Horton is entitled anyway to a special award, for 1937 or any other year.

## RARE DUAL PROGRAM

**A**ND speaking about dual programs it is not unusual to cobble with one exceptionally good subject and a second one not quite—well, you may get what we have in mind. On the Fourth or maybe the 5th of July the Hollywood Theater showed "Romeo and Juliet" and "Shall We Dance?"

There is a pair to draw to! Three and a third centuries divide the respective literary origins and double that of the periods. In time they are as the poles. So, too, are they in all

the characteristics that go to make up high-class entertainment.

Yet so susceptible is the human mind to the influence of theatricalism, to the illusion of the spoken word and its related action, that all too quickly we slip from under the spell of the undying lines of this centuries old tale of whirlwind courtship and marriage and most tragic sudden death to the gaudy of a story of today in which our attention is concentrated and our interest held by a pair of feet-footed lovers and a battery of nimble-witted comedians.

We wonder sometimes here in the geographical West as to the singular seclusion of women by stage authorities in Oriental countries, yet the writer of "Romeo and Juliet" had been in his grave over forty years before any woman publicly interpreted a role in one of his plays.

So Shakespeare never could have known the lustre that would have been added to the words of Juliet by the personality, the rare charm, of the Norma Shearer of his day.

#### RKO WINS HONORS

ON THEIR list of pictures to see lovers of stirring drama may put "The Tease of New York," which RKO-Radio exchanges already have released. It is strong meat—and clean as a hound's tooth. It will strengthen several well-established reputations, greatly strengthen in the instances of Edward Arnold and Cary Grant. As to the work of both of these much may be said in the way of high praise. Jack Oakie again proves he may be either serious or funny or both without being silly if given a Chissman's chance so to do.

To this reporter Frances Farmer, who sustains the role of the heroine, is a revelation. About her is none of the atmosphere of the theater. It is the face of an idyllic Joan of Arc, with eyes that radiate rare intelligence and wholesomeness, bespeaking unacquaintance with the ways of a sordid world.

That Miss Farmer is not the Josie Mansfield known to the New Yorkers of two generations ago is beside the point. Neither do other characters in the story parallel the facts. Jim Piek meets his death at the hands of one of a mob, not from Ed Stokes, who by the way is unmentioned in the story. The Stokes family was and probably is powerful and wealthy.

We do have Comedienne Vanderbilt, credited with inventing and steering that famous "The Public be damned," of which also incidentally mention is not made; and Daniel Drew.

The production is one of all-around size. Ferverell Marley, A.S.C., photo-

grapher, and Vernon L. Walker, A.S.C., responsible for the special effects, outdid themselves in their respective departments. The foregoing is no idle bit of speech. Every one photographically minded is certain especially to enjoy this phase of the picture.

Director Rowland V. Lee and all his actors; the adapters, the producer and all the members of the production staff have delivered rarely well.

#### VICTOR MILNER, A.S.C.

IN PARAMOUNT'S pressbook on "Artists and Models" there is space devoted to "Who's Who Behind the Cameras." The representative of the cameramen among the trinity which includes also producer and director is Victor Milner, first vice president of the American Society of Cinematographers. Incidentally he is also chairman of the entertainment committee at the last open house night of the A.S.C., June 28, but that's another story.

The v.p. of today was born in little old N. Y., and is the son of a physician coming from South Africa. He was one of the original quartet of *Pathe Weekly* cameramen in this country. In 1913 when the industry was just emerging from the one and two reel phase into the three and even the feature length film he traveled the world around as the official *Pathe* recorder of the Giant-White Sox baseball tour of that year.

Milner's apprenticeship was served under Eberhard Schneider, one of the pioneers of the industrial side of the industry. Under him he studied photography and photographic chemistry and also was taught the manufacture of cameras, projection machines, perforators and printers.

In 1916 Milner came to Hollywood—or more probably to California—on his honeymoon. He or rather they—his bride was the daughter of his preceptor—remained. Among the later productions on which the A.S.C. v. p. has supervised the camera work have been "Cleopatra," for which he was given the Academy award; "The Crusades" and "The Flamingo," all directed by Cecil De Mille.

#### CECIL DE MILLE, AUCSEMENTER

REVERTING to that open house A.S.C. night, the highlights of the evening were the introduction by Chairman Milner of Cecil De Mille as the guest of honor and the following response by the man who has been guiding the making of major pictures for a quarter century.

It was a delightful chat, for that it was. It opened with a tribute to the cameramen as the staff on which

a director leaned, opened in serious vein and almost instantly and with sureness of touch glided into the lighter suggestion that probably not any of the many present but what personally had been a witness to one of his major blunders.

There was drama of the sternest variety in the director's recital of the sequence of events that followed the shooting of the initial scene of "The Squaw Man," the first Lasky picture, right up to the lending of a very much needed helping hand by the late "Pop" Lubin at his studio in Philadelphia.

The major trouble had been due to the absence of standards in the mechanical equipment entering into the production—and exhibition—of pictures. It was just a simple matter of a difference in sprocket holes between a camera and a projector—but that seemingly infinitesimal margin came near meaning the temporary ruin of several men.

#### Comes Up the Line

In an easy, conversational way the speaker talked as he strolled back and forth in front of the mantel in the spacious lounge. And in the manner as well as the content of his extemporaneous chat there was a blending of camaraderie and fellowship.

The speaker traced his experiences through the earlier years of his connection with the film industry and then came amuck into the things of today—of television and of radio. He referred to the enormous sums being expended by sponsors just for one hour's air entertainment.

When we come to think of it, Cecil DeMille has had a broad experience in the amusement field—one that has fallen to few men active today. In 1913 he came to the screen a young man already widely versed in the ways of the stage—and incidentally, as the son of a stage father and mother, one who had absorbed stage atmosphere all his life.

And now matured in these older fields he has taken on radio in a large and responsible way. In his talk to the A.S.C. members some things were said indicating he is quite ahead of the situation in television, too.

Ralph Parsons representing General Electric on the West Coast, technically and interestingly as well as extemporaneously told of 1937 trends in artificial lighting.

Then there was the first public exhibition of the new Huesecolor. Hanging in the main lobby were twelve 11 by 14 photographs in the four-color system. The exhibit aroused marked interest among the A.S.C. members and guests.

The occasion proved to be a mark for coming chairmen of A.S.C. club nights to shoot at.

# PRESENT COLOR TREND IS TOWARD SUBDUED HUES

So Declares Former Designer and  
Color Coordinator in Talk to ASC

By GILBERT BETANCOURT

**H**ISTORY tells us that man first used color some one hundred and sixty centuries B. C. During these many centuries he has gone from the savage's bright hues and contrasting color combinations to the present trend toward true color harmony in a refined form and subdued or pastel hues.

Man has also made a vast science of the study of color, with thousands of books on the subject; but once the few fundamentals and the color-man's vocabulary have been learned, the student can begin acquiring his own experience and also interpreting lessons from nature, the oldest and best colorist of all.

The units of measure of color are as follows: Chroma is the measure of purity, and it indicates either the absence of gray or the amount of it mixed into the color. Value measures the lightness or darkness of the color, a light value often being called a "tint" and a dark one a "shade."

## Hue the Third Unit

The L. E. Du Pont De Nemours Company calibrates its "Duro" lacquers in some twenty different values. Finally, hue is the third unit of measure and indicates the position the color occupies in the spectrum, also referring to that which makes one color differ from another.

Munsell has taken ten distinct hues from the spectrum and produced some four hundred different color units by varying their value and their chroma; sufficient material for any conceivable problem involving color.

If we take the solar spectrum and wrap it around a circle so that the hue bands lie radially, we obtain a most convenient arrangement or chart called the hue cycle or circle.

If the three primary colors—red, yellow and blue—are placed equidistantly about this circle, and their three half-and-half combinations—orange, green and purple—or secondary colors, half-way between the component primaries, filling the six spaces then left with intermediate hues, we obtain eighteen different bands

as a basis for all color combinations. The longest wave infra-red, beyond the red; and the shortest wave ultra-violet, beyond the violet, do not appear in this hue circle, both being invisible. The latter is very important, however, to the outdoor photographer on account of its great actinism, making the use of filters necessary. The infra-red is also coming to the front in ultra long distance aerial photography and in motion picture night effects.

## Color Harmony

Color harmony means the art of arranging colors for pleasing effects. It is simple enough to define, yet in practice calls for genius similar to that of the musical composer.



The Hue Cycle

for there are no hard and fast rules. One must consider the mood or feeling to be expressed or interpreted, as well as the environment in which the color scheme is to appear.

There are at least five basic kinds of color harmony:

(A) Monochromatic harmonies, which simply arrange different values and chroma of the same color.

(B) Complementary harmony, which places colors diametrically opposite in the hue-cycle together, also in their various values and chroma.

(C) Triadic harmony, which arranges the three colors at the corners of any equilateral triangle within the hue cycle.

(D) Analogous harmony, which groups colors that are closely related to one another; for example, red, purple-red and orange-red.

(E) Split-complementary harmony, which uses not the exact complementary of any color but its adjoining relatives.

The paint masters, in portraying life on canvas, fixed and arranged their colors without fear or thought of anyone shifting them around afterward. But when we paint our pictures with a motion picture camera this is not the case; actors, setting and the camera itself can and do move, and each move can change the compositional color relationships.

## Color Movie Problems

Thus the cameraman has the new problem of having to avoid clashing color combinations at any time during a scene—a problem which requires thorough study and careful color designing before the scene can be recorded.

Since the color sensation received from any object depends upon the nature of the light illuminating the scene, set lighting becomes doubly important, particularly when the same set or players are to be photographed under natural and then again under artificial lighting which, in the case of standard incandescent lighting, is generally rich in yellow.

On the other hand the color-movie artist has at his disposal greater resources than the painting master. He can vary the color components of his lights and, to a certain degree, vary his exposures in order to change the effects of a set or a scene to harmonize with the atmosphere of the story. It has been demonstrated that by changing the color components of lighting one can change the color mood of a scene completely.

## Color Reactions

The most important individual characteristic of the various colors  
(Continued on Page 320)

# NEW FILM EDITING AID GIVES LARGER PICTURE

SINCE its introduction more than fifteen years ago the Moviola has become an indispensable film editing tool. The advantages of being able to view either individual scenes or complete reels of picture film, running either forward or reverse, at any desired speed, slow or fast, have made the Moviola a standard cutting room accessory in major studios the world over.

As sound was introduced these devices expanded to afford the same facilities to cutters of both composite and separate sound track and picture. Since talking pictures brought the problem of accurately synchronizing pictured lip movements with a separate sound track, however, many cutters have expressed a wish for a machine capable of giving a larger picture image than that normally seen through the viewing magnifier.

Making its debut coincidentally with the recent convention of the Society of Motion Picture Engineers a new Moviola of this type is announced. In addition to the familiar features, it projects an enlarged image of the picture, right side up and correct as to right and left, on a 54 by 64 inch ground glass screen placed conveniently beside the regular viewing aperture.

This is achieved without rethreading the machine in any way and with no special manipulation other than swinging a small, hinged lamphouse into place over the regular viewing lens.

## It's the Preview Model

The new model is officially termed the Preview Model. In appearance it is not unlike conventional types. There are two film moving heads—one for picture and composite sound-track, the other for separate sound track.

Each head has its own driving motor, either of which is capable of driving the entire assembly. A flexible coupling joins the two units.

These film moving assemblies are mounted on a rigid metal stand, equipped with casters. Beneath the stand is the AC-operated amplifier for the sound system. Above it is the loudspeaker.

The projecting feature of the Preview Moviola is made possible by a cast aluminum shadow box which extends downward and to the rear beneath the picture head. The ground glass viewing screen is located at the upper end of this shadow box, care-

fully shielded from room light by a deep metal shade.

When it is desired to project rather than to view the picture through the magnifier in the usual way, an auxiliary lamphouse is swung into place above the viewing lens. This lens then acts as a condenser, while an objective lens below the film plate, permanently focused, projects the picture downward on to a spherical mirror from which it is reflected upward on to the ground glass screen.

## Light Source 50 Candles

A convenient handle on the right hand side of the shadow box provides a framing adjustment in addition to the usual method of sliding the viewing aperture and magnifying lens. A secondary adjustment, placed beneath the shadow box, provides a lateral adjustment of the projected image when this is necessary.

The light source used in projecting this enlarged image is a 50 candle-power automobile headlight globe identical with those used as exciter lamps in the sound pick-ups and as

an illuminant in conventional viewing.

A single master switch controls both the picture viewing lights. When it is desired to view the picture conventionally rather than on the larger screen all that is necessary is to swing the projecting lamp house to one side. This operates a mercury switch, which automatically turns off the projecting lamp and turns on the lower viewing lamp.

The same movement slides an opal glass diffusing screen into place immediately below the film plane, and at the same time unfolds a diagonally inclined matte white reflecting blade which reflects the light through the film from the viewing lamp which is necessarily placed at one side.

## Equipped With Shutter

When, either in ordinary viewing or projecting, it is desired to mark a given frame of film, the viewing lens prods upward, leaving the film viewing aperture clear without interfering the movement.

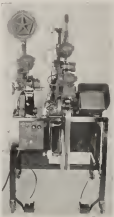
While most types have no shutter, the Preview model is equipped with a barrel type shutter for use when projecting. This is of considerable advantage when projecting at normal speeds, but in case the flicker proves objectionable when projecting the large image at extremely slow film speeds it is possible to disconnect the shutter at any time and to reconnect it as easily. It is impossible to reconnect the shutter out of time with the intermittent.

As has been stated, there are two independent driving motors on this model. The one fitted to the left hand head is a constant speed motor for driving both sound and picture heads at a fixed rate of 24 frames a second (50 feet a minute).

## Can Handle Short Lengths

This is fitted with both a hand-operated switch control and a foot operated treadle control. The motor fitted to the right-hand component is a variable speed motor. A hand operated switch operates this without further attention at a film speed of 90 feet a minute, while a foot operated treadle permits variable speed operation at any speed below this. Both motors are reversible.

Both the conventional magnifier viewing and projecting features of the Preview may be used either with a short length of film held in the



Preview Moviola, showing new viewing screen on which large picture is projected.



hand or with greater lengths spooled on 1600 or 2600 foot reels.

For the former utilization special non-scratching film channels are provided, while the inclined back of the stand makes an excellent runway through which the film may be fed into a basket on the floor. For the latter use, with longer lengths of

film on reels, double-acting spindles are fitted, both to sound and picture heads. These will take up the film in either direction.

A representative of this magazine was privileged to be the first to edit a reel of film with the new model. The projecting feature quickly proved its worth for studying detailed action,

as in matching close-up and long shot cuts and synchronizing lip movements to sound-track, while the instant change from the large picture to the smaller image seen through the magnifier, or to the clear aperture for marking a selected frame, was invaluable.

## RECENT DEVELOPMENTS IN MOTION PICTURE LIGHTING

*Abridged from a paper presented at the spring convention of the Society of Motion Picture Engineers, in Hollywood, 1937*

**By ELMER C. RICHARDSON, A.S.C.**

**I**N PREVIOUS discussions of this subject it has been pointed out that modern lighting technique evolved, bit by bit, from the very early necessity of sufficient illumination to permit an exposure. It was soon found that projecting beams of light on to set and actors from a variety of angles gave improved effects of depth and roundness.

The development of lighting from that time on has been closely interlocked with the development of light projectors which afford a more precise control of these beams.

This is well illustrated by comparing the custom of only a few years ago with current practice, especially as concerns "general" lighting.

This phase of lighting, as its name implies, deals with maintaining a definite overall exposure level of illumination throughout the set. The necessary intermediate tones and highlights are built up from this by the more intense beams from spotlighting units.

Within the past year this rather characterless overall lighting has been definitely on the wane. New materials and equipment make a more specific lighting of sets both desirable and possible.

There is, moreover, a new conception of set lighting. For several years after the inhibiting introduction of sound a set seemed regarded more nearly as something to be illuminated than as something to be lighted.

### Key Lighting Gains

Today, in addition to lighting the set to give some illusion of depth, and to keeping it in accord with the mood of the action, many of our best cinematographers hold that the lighting of a set must make it a decorative part of the composition.

Over and above the familiar technique of making the set a lighting

composition of contrasted highlights, halftones and shadows, cinematographers are more and more frequently employing the artifice of casting decorative shadow patterns on otherwise flat wall areas.

The technique of "key lighting," while it cannot be said wholly to have come into use only during the last few years, has certainly gained in importance. Fundamentally, it refers to the logical practice of lighting a set directionally. That is, keying the lighting to some logical angle of lighting, usually suggested by the design of the set.

This does not mean that all the lighting should come from this direction, but that the predominating highlights should appear to come from some source established within the scene. Beneath this key lighting

will come the still vitally necessary modeling lighting, fill-in lighting, etc.

The lighting of people is too intricate to discuss here. It is an intensely individualized matter, varying not only with the technique of the individual cinematographer but with the requirements of each individual star.

### Strides in Color

Due to various limitations, natural color cinematography was felt to require faster lightings. Within the past very few months color cinematography has made immense strides toward parity with monochrome. The process itself has been improved to give the cinematographer more latitude, and newer and more efficient are spotlighting equipment has been made available.

At present, these units are used exactly the way the incandescent Solarisets are used in black-and-white. The arrangement of modern lightings in color cinematography is virtually identical with black-and-white practice.

The formerly dominant general lighting units have virtually vanished save from unusually large sets. Speaking conservatively, over 90 per cent of the lighting of a Technicolor scene is now effected by spotlighting equipment. The methods and effects are identical with the best monochrome practice.

In some respects, it may even be said that color lighting methods and equipment are in advance of those commonly used in black-and-white. This, however, is more for economic reasons than technical ones. For color it was necessary to obtain new lighting equipment throughout, as the older types were deficient in such qualities as color, uniformity of burning, silence, and controllability.

In black-and-white this procurement has not been spurred by absolute necessity, and is of course slower, since there exists a vast supply of passable though obsolescent equipment.

However, as the newer concept of set lighting is becoming more universal, this procurement is accelerating, and it will not be unduly long until we will find the old-time concept of set-lighting as largely floodlighting extinct and replaced by precision lighting of set as well as players with the more exact tools of today's most modern spotlights.



Elmer C. Richardson

# GORDON POLLOCK BUILDS TEST LAB

**A** PORTABLE test laboratory which delivers enlarged prints of test shots a dozen minutes after the negative is exposed is the latest production aid put into service by Hollywood camera experts.

The new device, introduced within the last month at the Twentieth Century-Fox Studio, is the creation of Gordon Pollock, A.S.C., and is jointly used by his special process staff and the studio's directors of photography.

It consists of a small, light-tight room, about half the size of a portable sound mixing booth, mounted on rubber-tired wheels so it can be trundled on to any set, and fully equipped to develop short test strips of motion picture negative and to make single-frame enlargements from these tests.

An 8 by 10 inch paper print of the test is delivered to the director of photography within eleven minutes of the time his assistant hands the exposed negative to the test lab's attendant. Already it has proved itself invaluable for difficult scenes in the studio and on location.

The rolling laboratory is a rectangular box of plywood, constructed on a sturdy steel frame. Four pneumatic-tired wheels permit it to be moved easily about the studio and rolled into a corner of the stage. Its compact dimensions permit it to be loaded on to any truck for transportation to locations. In the studio its electrical needs are met by plugging its aides into any convenient electric circuit; on location, it may be fed from the power supply of the sound truck. The water supply is self-contained.

## What's In It

The interior of the little laboratory is lined on three sides by work benches. To the right of the entrance are the trays and tanks for developing negative and prints. The negative-developing unit is concealed under a light-tight trapdoor in this bench. It consists of a deep metal tank which either may be heated or filled with ice water to keep the solutions at the desired temperature.

Within this are fixed three glass test tubes of the right size to accommodate slightly over a foot of film, which is held straight and with the edges bent slightly inward, much as film is loaded into a miniature camera developing reel. Due to this construction no supporting reels or clips are needed to hold the film. It is simply slid into the tube.

Two of these tubes hold developer, the third hypo. Since this developing compartment is closed by a light-tight cover, the room lights may be turned on for printing or the door opened to receive or hand out loaded magazines while the test negative is developing.

Beyond this inset tank are three trays, held in place by wooden frames, for developer, fixing-bath and rinse for the enlarged prints.

At the far end of the compartment is mounted the enlarger, which is a special type designed by Pollock, and which is now understood to be commercially marketed. A 10-watt globe furnishes the enlarging plate light, and the wet negative is placed in a special metal pressure aperture while the enlarged print is made. The enlarging lens is a standard 50mm. objective in a standard focusing mount.

## Convenience a-Plenty

In order to secure consistently accurate printing exposures, an automatic, electrically driven self-timer is used. This may be set to give a range of printing exposures closely comparable to the printing light adjustments in the studio's printers.

Beneath this enlarger are two light-tight drawers with spring-operated doors, to contain supplies of bromide paper.

On the left side of the darkroom



Portable test-developing darkroom designed by Gordon Pollock, A.S.C., in use at Twentieth Century-Fox Studio.

is a generous worktable which can be used for loading and unloading magazines, etc.

Beneath the benches are compartments for bottles of solution, blotters, chemicals, and other necessary spares. The water supply is from an ordinary water cooler carrying a five-gallon bottle of distilled water.

The ventilating air intake is through a light-tight vent in the floor at the far end, while the exhaust, impelled by a ventilating fan, is just above the door. The air inlet may be fitted with moistened felt pads for humidifying and cooling the room.

In actual use, the portable laboratory makes use of solutions and printing papers as closely comparable as possible to the characteristics of the solutions and positive film used in the studio laboratory. The negative developer, while actually different as must necessarily be the case with a super-speed solution requiring but three minutes' development, nevertheless gives a negative of characteristics which are fundamentally similar to those the same negative would have if processed by the studio.

In the same way, the paper upon which the enlarged print is made—Agfa "Bromira"—and the developer used give print characteristics closely comparable to those of motion picture positive film printed in the studio plant. To minimize the effect of negative grain a crystal stipple surfaced paper is used.

## Test Lab Popular

Since its introduction in June, the new test lab has become highly popular with the Twentieth Century-Fox camera staff. It has been used by Arthur Miller, A.S.C.; Ernest Palmer, A.S.C., and others who consider it a truly practical aid to solving unusual photographic problems in the studio and on location. It is noticeable when the lab is on a studio stage directors of photography working on other sets constantly patronize it.

It has been used on distant locations such as one unit recently encountered at Sonoma, Cal., where it did double duty as testing laboratory and loading room. In this case, the location was nearly 40 miles from the hotel which served as the company's base, and to meet studio schedules the company shipped exposed film to the studio laboratory in the middle of each afternoon. Without this portable darkroom there would have been considerable delay in these shipments, while the director of photography would admittedly have missed the security afforded by frequent photographic tests under the varying light conditions encountered. The value of this instantly available processing for tests of intricate special-effects shots will be obvious.

# FIDELITY

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**EASTMAN *Fine-Grain***  
**DUPLICATING FILMS**

# TELEVISION WILL SUPPLEMENT BUT WON'T SUPPLANT

*Abstracted from a paper presented at the Spring Convention of the Society of Motion Picture Engineers, held in Hollywood, May, 1937.*

**NOTE**—One of the conclusions of Mr. Beal is that, although some parts of television's program technique may parallel the technique of the stage, of motion pictures and of sound broadcasting, it will be distinctive from any of these. Another conclusion is that television will supplement and not supplant existing services or agencies which represent the older arts.

## By R. R. BEAL

Research Supervisor, Radio Corporation of America

### In Two Parts—Part I

**I**N MOTION pictures the reflected light from the subject is converted into a film record and transmission from the film record to the viewing screen is effected by means of light. In television, transmission is effected through the agency of electricity.

Reflected light from the subject is converted into electrical impulses which may be transmitted by radio or by special cables from the point at which the subject is situated to a point far removed from that locality, and then reconverted into light images on the viewing screen. The reproduced image may originate from a subject or from a film record of a subject.

#### Picture Pickup

In the RCA high definition television system the first step in this process occurs in the "Iconoscope," which converts the light image into electrical impulses, and the final step takes place in the "Kinescope," which transforms the electrical impulses into a light image on the viewing screen.

The Iconoscope consists of an electron gun and a photosensitive mosaic in a highly evacuated glass envelope. The electron gun produces a fine pencil of electrons which is moved horizontally and vertically and so caused to scan the photosensitive mosaic. This motion of the scanning beam is produced by appropriately applied electromagnetic or electrostatic fields.

The mosaic in the Iconoscope consists of a vast number of tiny photo-sensitized silver globules covering one side of a thin sheet of mica. The other side of the mica is covered with a conducting film. The mosaic is mounted in such a position that the electron beam strikes the photo-sensitized plate at an angle of 30 degrees. The optical image is focused directly on the mosaic.

The mosaic may be thought of as a vast number of minute photocells,

each shunted by an electrical condenser which couples it to a common signal lead. When the mosaic is illuminated these condensers are charged positive with respect to their equilibrium potential, due to the emission of photo-electrons.

This positive charge is proportional to the quantity of light received. The electron beam, as it scans the mosaic from left to right, drives to equilibrium the elements over which it passes and thus releases the charges and induces current impulses in the signal lead. The train of impulses thus generated constitutes the picture signal output of the Iconoscope.

It is apparent that these impulses will appear in an orderly sequence as the electron beam scans the area of the mosaic one horizontal line at a time from top to bottom. It is in this order that the current impulses are transmitted as television signals.

In the Iconoscope the charging process in any specific element of the mosaic continues until the beam in the process of scanning returns to that element. The greater the electrical charge of the element, the greater will be the current impulse induced in the signal lead. This storage principle makes the Iconoscope a very effective pick-up for television.

#### Sensitivity Like Film

The sensitivity of the Iconoscope at the present stage of development is about the same as that of ordinary negative film. Research in progress is disclosing methods by which it may be possible gradually to increase the sensitivity.

The color response of an Iconoscope depends upon the activation schedule used in producing the mosaic and upon the composition of the photo-sensitive material. The color response



Interior of NBC "Iconoscope" television camera. The large globe-shaped tube corresponds to the film in a motion picture camera.

characteristic may be varied over a range comparable with that covered by photographic emulsions available for motion picture work.

The Iconoscope and its associated optical parts correspond in the RCA television system to the camera in motion pictures. This unit of equipment is called the "Iconoscope Camera."

Like a motion picture camera, the Iconoscope camera may be moved about the studio during a performance; it is raised and lowered by a motor driven mechanism; the usual provisions are made for following the action and action of a scene; it is silent in operation.

The Iconoscope mosaic is about 4 by 5 inches, or about six times larger than one 35mm. motion picture frame. Therefore the Iconoscope camera lenses are of greater focal length than those employed in motion picture cameras. Present studio cameras for television are equipped with lenses of 6½ to 18 inch focal length.

A wide band preamplifier for amplifying the picture signal from the Iconoscope is included in the camera. The picture signals and the necessary power supply currents are carried by a cable which connects the camera to the system.

The picture signals generated by the Iconoscope in the camera which picks up the scenes are amplified and delivered to a radio transmitter. These picture signals are caused to modulate the carrier wave of the transmitter in a manner analogous to that employed in sound broadcasting.

The radio signal at the distant point is picked up by the receiving antenna and delivered to the television receiver in which the picture signal is restored to its original form as a train of impulses. These are fed through amplifiers to the Kinescope, which transforms them into a light image on the viewing screen.

#### Synchronizing Receiver

The Kinescope is an evacuated glass tube which contains an electron gun and a luminescent screen. The electron gun produces an electron beam which will carry greater current than the gun in the Iconoscope. The electron beam is caused to scan the viewing screen by appropriately applied electromagnetic fields. Light is produced when the electron beam bombards the luminescent screen and the amount of light thus produced is proportional to the current in the electron beam.

The scanning beams of the Iconoscope and the Kinescope are accurately synchronized so that the two beams are on corresponding points of the mosaic and the luminescent screen at any instant. The brightness of a



Television staff at NBC television studio, Radio City, N. Y. As in early talking technique, two television cameras are used to secure long-shot and close-up angles. "Carson" from one angle to the other is done by picture mixer in the monitor room in the background.

point on the luminescent screen is proportional to the current in the bombarding beam and this current is produced by voltages related to the picture signal impulses generated by the Iconoscope.

Since the electron beams of the Iconoscope and Kinescope are in exact synchronism, the brightness of any point on the Kinescope screen will be a function of the brightness of the corresponding point on the mosaic of the Iconoscope. In this manner the image projected on the mosaic of the Iconoscope will be reproduced with

exactness on the viewing screen of the Kinescope.

The electron beams of the Iconoscope and Kinescope are synchronized by transmitting synchronizing impulses at the end of each scanning line and at the end of each picture or frame. A synchronizing amplifier in the receiver separates the synchronizing signals from the composite signal by amplitude selection, separates horizontal and vertical synchronizing signals from each other by frequency selection and delivers the impulses to the respective deflecting oscillators in proper amplitude and polarity for synchronization.

## EASTMAN ANNOUNCES PRODUCTION OF QUALITY DUPE POSITIVE AND NEGATIVE

**T**HE Eastman Kodak Company formally announces during the first week of July a new stock development described by an expert in that field of manufacturing as one of the most important in the last ten years, one the advantages of which cannot at this time be calculated, as eventually it will mean the saving of thousands of dollars to each studio.

Eastman states its efforts for years to obtain a new stock which would enable the industry to make duplicate negatives comparable in quality to the original have culminated in success. The two duplicating stocks are described as fine grain duplicating positive and fine grain duplicating negative.

These films are considerably slower in speed than the duplicating films

current in use. It is necessary to make a printer adjustment in order that sufficient exposure is available to print these stocks. After this adjustment has been made the same procedure as is now being used to make duplicate negatives can be followed.

Practically all major studios in Hollywood have carried on experimental work with these new type films and are especially pleased with the results obtained.

It is now possible to make as many duplicate negatives as is desired which will give a print equal in all respects to that produced by the original negative. This enables the studios to retain the original negative, delivering the "dupe" negative to foreign countries for release.

# SOUND RECORDING QUALITY IMPROVES

Just Around Corner Is Possibility  
of High Grade Reproduction on 16mm  
Film by Those of Limited Experience

*Review of address by H. C. Solent, Electrical Research  
Products, Inc., delivered at conference of Hollywood  
Motion Picture Forum Saturday, July 17, 1937*

SINCE the introduction of sound into the motion picture field there has been a very steady improvement in the sound quality and a continuous evolution in the equipment employed. Much of the characteristic mechanical noise which once created a distracting background has been eliminated.

The brass-throated quality of the screen's favorite stars has been toned down to a pleasing naturalness. The quality has been improved so that the screen sets a standard for intelligibility of the sound this film motion measuring equipment as known as a flutter measuring set.

Engineers have worked for over two years to produce a flutter measuring set which will indicate irregularities in film velocity as small as 2 per cent and not only indicate the amount but also give a written record which is of such a nature that the engineers skilled in its use can determine quickly and easily exactly what sprocket or cog wheel in the machine under test may be at fault and how much it must be corrected.

It is through the use of many auxiliary tools, which the laboratories working on the problem have developed especially for the purpose, that these improvements in sound quality have been made possible.

## Stereophonic Cuing

This work is going steadily forward today in the laboratories of Electrical Research Products, Inc., in Hollywood and New York. While it is not possible to predict the exact date on which new developments can be made available, it is certain that bitity which cannot be realized from the spoken drama of the legitimate stage.

The progress made has not been sporadic use of revolutionary sudden news. The research and engineering

staffs of the Bell Telephone Laboratories, Western Electric, Inc., and Electrical Research Products, Inc., organizations developing equipment for talking motion picture, have painstakingly and steadily brought these things to pass. The number of improvements and the diversity of fields into which exploration had to be made has been considerable.

## Reducing Equipment

Amplifiers have been constructed which contain all of the delicate controls to effect the fine shadings of sound required in the most complex dramatic production and which weigh less than one tenth as much as the

amplifiers employed but a few short years ago.

Recording equipment once occupying considerable space in the studios has been redesigned until today the most complete recording channel is contained in a half dozen small boxes that can be carried and operated in a light truck. In spite of these reductions in weight, improvements in performance have been obtained which have given greater clarity to the sound.

The portable recorder which goes with this lightweight sound recording system causes the film to move with a steadiness never before possible in a lightweight unit. This has effectively eliminated the quivering quality frequently noticed in sound recorded on the older machines.

Since most films are rerecorded in order to add the desired sound effects and make adjustments in the characteristics of the sound, before release to the theatres, new rerecording machines have been developed especially for this purpose.

## Ninety of Error Detectors

Here again the absolute uniformity with which the film travels in the machine is of paramount importance. In order to study this uniformity of film movement and to obtain the required degree of steadiness it has been necessary to develop special apparatus to measure the film motion.

Since irregularity in film motion gives rise to quivering or fluttering



Western Electric (left) Type Recorder (Portable)—Apparatus on upper row, reading from left to right, includes: First Unit, Control Cabinet (upper), D. C. Motor (lower), Second Unit, Recorder (top), Recorder Control (lower). Third Unit, Noise Reduction Unit (top), Amplifier (lower). Fourth Unit, Pick-up Unit. Apparatus on lower right and left—power units.

many improvements in sound quality and in naturalness and devices to facilitate showmanship in sound pictures will be made available just as rapidly as the industry finds itself financially able to absorb them.

Thus the stereophonic system which gives to sound the illusion of greater roundness and a sense of position, while now in the laboratory stage, has been demonstrated and is uni-

versally acclaimed to be a tremendous improvement over the present methods.

The apparatus for accomplishing this is rather complex and too expensive at the present time for general use, but the laboratories are actively working to reduce its complexities so that the method may be within the reach of commercial application.

Methods have been worked out for giving improved results from sound recorded on 16mm film. Much of this progress is already available in films made in the educational field. It is to be expected that comparatively soon recordings of the highest grade can be made on 16mm film by even those of limited experience in this field.

## ROLLING CAMERA LOCKER GUARDS CAMERAS ON SET

**K**EEPING camera equipment safely and accessibly on the set is simplified by a new rolling equipment locker used at the Twentieth Century-Fox Studio. It carries two complete camera outfits, with tripods, magazines, and all accessories, replacing the fixed camera lockers in the camera department, and keeping unused equipment safely under lock and key yet instantly available on the set.

The rolling locker is a metal cabinet mounted on small rubber tired wheels. At one end is an open recess in which tripods may be carried. The rest of the device is completely enclosed.

### Large Cupboards

Next to the tripod compartment is a large cupboard extending the full depth and width of the unit for carrying accessory cases and the like. Next to this are two somewhat smaller closed compartments, one above the other. The upper of these accommodates two complete camera heads, with their motors, on a removable wooden tray which holds the cameras firmly in position yet allows them to be

removed or inserted quickly and easily. Below this is a second compartment for magazine cases.

### Plenty of Locks

The doors to these locker compartments all open upward, so that it is virtually impossible to leave them open by accident. All are fitted with catches which hold them wide open so that the assistant may have both hands free for removing or replacing equipment, and all are fitted with locks.

The new device, which has become a standard part of the studio's methods of handling camera equipment, is the brain child of Godfrey Fuxer, head of the Twentieth Century-Fox

Camera Department. He points out the advantages of being able always to keep all parts of a given camera outfit together, with spare lenses and other parts not in immediate use none the less available and yet safely guarded.

A notable saving in time has resulted, he says, from eliminating the need for sending cameramen from distant stages or sets to the camera office for unexpectedly needed lenses or accessories.

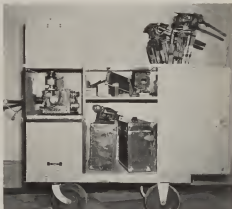
Similarly, when a company works unusually late, and is to continue the next day on the same stage, it is perfectly safe to leave the equipment, locked in this rolling locker, on the stage rather than having to return it to the camera office locker room. The new units have, in the short time they have been in service, proved themselves well worth while from the standpoints of both convenience and efficiency.

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Rolling camera locker used at Twentieth Century-Fox Studio carries two complete camera equipments with all accessories.

# A. S. C. MEMBERS ON PARADE

• Elmer Dyer, A.S.C., reporting from London, suggests the first days of July were like old home week in that metropolis of the world. The flying cinematographer declares New York no longer is the thundering herd to him—London outshadows it. Mixing are the sun and the family care—"this place is so big," he explains. Incidentally also are the monthly get-togethers at the clubhouse.

Among the Hollywoodians who fraternized at a gathering were Mr. and Mrs. John W. Boyle, Mr. and Mrs. Lloyd Knechtel, Mr. and Mrs. Joe Rock, Mr. and Mrs. Ned Mann, Harry Perry and Otto Dyer. Joe Duleavy and Hattie Tappenbeck in Holland sent a wire of greeting.

(Our thanks to Mrs. Dyer for the reporting.—Ed.)

• Gordon Jennings, A.S.C., is recovering excellently from his recent serious back injury. Brother Dev reports Gordon, now getting about on crutches, visits the Paramount special-effects department almost daily to see that his staff is keeping up to snuff.

• Dewey Wrigley, A.S.C., presumably wishes Louisiana swamps would declare a closed season on studio workers. Newspaper reports say a swamp stung Bill Pine, De Mille unit business manager, while he was driving Dewey and other members of their location unit in a car. Result, one ditched car and three slightly but not seriously injured filmsters, not least of whom is D. Wrigley. But if there's to be any closed season, why not one on special process cinematographers, what with Wrigley, Gordon Jennings, and Fred Jackson, Jr., all on the injured list?

• John W. Boyle, A.S.C., will be headed for Hollywood during the fall. He has just finished his final picture at the A. T. and P. studios in England and is away on a holiday. His family accompanies him, and in the family car the party will cover Ireland and Scotland and the Continent.

Going along, too, is the trusty camera equipment, which will be brought into use whenever the unusual is spotted, anything that is the cameraman's opinion might prove useful to a production department.

Before faring forth and north a small party was staged—small in numbers, we beg to amend. Present with the past A.S.C. proxy were Harry Perry, A.S.C., and Elmer Dyer, A.S.C., recent arrivals from Hollywood. You'll have to fill in your own details, which probably without any difficulty you will be able to do. We just haven't got 'em.

It may be worth remarking, however, in passing that Elmer is a member of the society's entertainment committee. And there are those who know who will assure you that to be elevated to that spot a man must have what it takes.

• Charles Herbert, A.S.C., is making the most of his stay at his cabin in Montana following his return from the Orient, where he was for a long session translating happenings of importance into March of Time. Manly "Herb" is a true son of the soil, as he is proving by his attack on things with a pick and shovel, with his cementing efforts, his rock quarrying, his carpentering, his gardening and plumbing and what have you.

He admits that he and the Mrs. are enjoying the wild flowers, which are everywhere in abundance, and the glorious weather. Who better is equipped to enjoy such a return to old home scenes than those who have been in foreign lands and among strange men and strange scenes? "We're surely lucky," comments the returned recorder of things important. His friends will agree, and will wish him all of it and a bit more.

• Joseph A. Dubray, A.S.C., postcards from Noordwijk Ann Zee, Kurhaus Ruus by Duin, seascapes, which ought to mean and probably does. Somewhere in Holland—and under date of the last Sunday in June—a remembrance and good wishes. Join-

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ing with him is Hatto Tappenbeck, a fellow-craftsman sojourning in Hollywood.

• Lawrence Dallas ("Del") Clawson, A.S.C. incorporator, passed on in New York July 16. He survived his mother, who died in Salt Lake City, but four hours. He was fifty-one years old. He entered the photographic field over thirty years ago, and was more than a pioneer. He is credited with many innovations in the refinement of photographic apparatus.

Del Clawson is the fourth to pass of the fifteen men who on January 8, 1913, formally were granted letters of incorporation. The organization had formed nearly a year earlier, but the movement to incorporate resulted from the wish on the part of the membership to secure the benefit of legal protection.

The list of names appearing in the framed engrossed parchment hanging on the wall of the executive business manager's office in the A.S.C. here are Philip E. Rosen, the first president; Homer A. Scott, William C. Foster (deceased), L. D. Clawson (deceased), Eugene Gaudin (deceased), Walter L. Griffin, Roy B. Klaffko, Charles G. Rosher, Victor Milner, Joe August, Arthur Edison, Fred Le Roy Graeville (deceased), J. D. Jennings, Robert S. Newhard and L. Guy White.

• Philip M. Chancellor, A.S.C., A.B. P.S., F.R.G.S., missed the June get-together of the bunch at the A.S.C. clubhouse due to his physical incapacity and quite contrary to his preceding intentions. It seems there is a boat in the case, a new one; that on the Sunday prior to the Monday stag the new master of the ship chose to have a trial run; that the water was in a calm—and also reflective—moody; and the sun, scarily warm, did its well-known stuff.

A credible witness deposes and says the victim of Old Sol, admittedly an expert on color, probably never in his life has encountered anything approximating what he himself displayed on "the evening after," characterized by the aforesaid witness as approximating a futurist conception of a sunrise.

#### Hunter with Paramount

C. Roy Hunter is now the head of Paramount's camera department, succeeding James B. Wilkinson, promoted last week to be the boss of the studio's laboratory. Hunter for many years was head of Universal's laboratory, his duties including charge of the camera department. A couple of years ago he went to the Consolidated laboratory as plant superintendent, but recently retired following a controversy over a transfer to Republic to which Hunter took exception.



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# HOW ONE CINEMATOGRAPHER SECURES VARIABLE DIFFUSION

**I**N all of the recent discussions of methods for producing diffusion which may be varied during the making of a scene, the diffusing medium has been planned merely as an accessory to the camera. The devices most generally used have taken the form of a supplementary attachment placed on the matte box, or in some cases built semi-permanently into the blimp.

By THEODOR SPARKUHL,  
A. S. C.

To the writer this seems an unnecessarily roundabout approach to the problem.

Diffusion is definitely an integral part of modern dramatic cinematography. Practically every scene employs it to some extent. Moreover,

while a cinematographer may change the degree of diffusion from scene to scene, in order to satisfy the artistic and technical requirements of the individual scenes, he will as a rule hold generally to one given diffusing medium. If he prefers the one type of diffuser, he will make relatively little use of other types.

The problem is therefore essentially one of permitting a quick and easy change in the degree of diffusion secured by some established means, and of making that change possible within a scene.

## Plan Is Practicable

We have often heard cinematographers express a wish that camera designers would incorporate such a variable diffusion element in the basic design of a camera. Quite as frequently, we have heard this wish negated by the statement that it would require too extensive alteration of camera design to prove commercially practical.

This is not the case. It is thoroughly practical to apply such a device to virtually any existing studio-type camera. The writer's own camera is so equipped, and has for some time been used with complete success.

It is simply a matter of replacing the dissolving blade of the camera shutter with the desired diffusing medium and using it then as an indefinitely variable diffusing element.

It will be remembered that for a number of years the built-in shutter dissolve on studio cameras has not been used. Moreover, under modern conditions in which the cinematographer is able to control exterior lighting almost as accurately as he controls interior lighting, the practice of using reduced shutter apertures to control exposure and related factors has also been used less and less, except in panning shots, where there is a considerable variation in light; but even so my method can be applied.

It may seem repetitious to outline the fundamental principle of this mechanism, but it will be well to have it clearly in mind. Such a shutter consists of two blades. One of these is fixed. The other is movable. Both revolve together, but one may be moved in relation to the other.

When the movable blade is turned to its maximum in one direction it is practically hidden by the fixed blade and the shutter opening is at its

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maximum—generally in the neighborhood of 170 or 180 degrees. As the movable blade is moved in the opposite direction it reduces the open area of the shutter's circle, ultimately closing the shutter-disc completely.

#### Uses a Scheibe

When a fadeout is made the movable blade is closed, either manually or automatically, so that each successive frame is made through a smaller sector of the shutter than the frame preceding, until finally the shutter is completely closed and no exposure is possible.

In the writer's camera the movable shutter blade has been removed and replaced by a blade of identical shape, but consisting of the desired diffusing medium. In this case, a relatively heavy Scheibe diffusing screen.

When the shutter blades are in the maximum-opening position none of the diffusing element is visible. As the movable blade is closed, more and more of this diffusing element comes into view.

When the camera is running, with the diffusing blade partly "closed," a part of the exposure is made without diffusion and part of it with diffusion.

This naturally gives considerably less diffusion than would be obtained if the entire exposure were made through a fixed diffuser of the same strength. But as the proportion of the exposure made through the diffusing element increases, the degree of

diffusion obtained increases correspondingly.

It is therefore possible to govern the degree of diffusion obtained by a simple adjustment of what would normally be the shutter opening. In the same way, it is possible to increase or decrease the degree of diffusion by altering this opening as the scene is photographed.

In practice, the writer recommends the use of a rather heavy diffusion element—say a Scheibe No. 2 or 3 or its equivalent—as this gives the maximum range of variable diffusion. With the diffusing blade adjusted to

cut the clear aperture a scant degree or so, the result is a very light diffusion such as might be used for long shots.

When more diffusion is desired, the shutter is simply "cut" more. Where maximum diffusion is needed, it is only necessary to "close" the shutter completely.

#### Easy and Smooth

These adjustments may of course be made while the camera is running, adjusting the shutter either automatically or manually. The result is a far easier and smoother change in

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diffusion than is possible by any other method. Even when the change is made quickly, as when, for instance, an actor walks into a previously vacant set, or in a swift scene shot the change is not obviously perceptible as such on the screen.

The device is most perfectly adaptable to cameras in which the action can be rehearsed through the revolving shutter, like the Bell & Howell and DeBrie; but in other types, like the Mitchell, where this is not possible, a few tests will show the proper settings for and desired degree of diffusion.

It should be entirely possible to extend this idea still further. For instance, in some cases it may be desirable to vary the amount of filter

correction within a scene, or to control varying light and contrasts in outdoor trucking shots by varying densities of neutral density filters.

The device naturally lends itself ideally to this. An infinitely variable neutral density filter, for example, could be produced by fitting a dissolving blade made of a 100 per cent neutral density filter.

By changing the shutter aperture adjustment this could give a complete range from its maximum down to a far lighter maximum than any neutral thus far available.

Naturally, it would give invaluable intermediate steps between the present fixed densities. The same would naturally be true with any color filters as well. The possibilities of



Thorndyke, A. S. C.

varied filter effects seems practically limitless, for instance, in outdoor scenes where the camera pans or trucks from an exterior to an interior, or the reverse.

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# AMATEUR MOVIE

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IT was on a summer evening in August in the year 1934 that two men, Randolph B. Clardy and C. W. A. Cadorette, sat in a car parked on a city street and first talked of forming a motion picture club to be devoted to the miniature motion picture camera field—8 millimeter. These selfsame two men worked night after night advancing ideas and getting material together to put their ideas across.

It was in the preceding December of 1933 that Clardy had first won the international prize in the contest sponsored by the American Cinematographer. Again in the following December he won the same laurels.

It was not long after the August evening first mentioned when the two enthusiastic young men consulted some of their friends relative to the proposed enterprise, among whom were Dr. Henry A. Linek, Courtney L. Dow, and myself. A business meeting finally was held at the residence of Mr. Cadorette, where it was decided to form what proved to be perhaps the most unique club of its kind in the world, to be devoted to the use of the smallest film made—with a frame so small that a picture can scarcely be seen with the naked eye.

Mr. Clardy next set to work and designed the club magna as it stands today. After some advertising the first meeting of the Los Angeles 8mm Club was held on January 10, 1935, in the auditorium of Bell & Howell in Hollywood. E. F. Carlson of that company, Mr. Winters and Mr. Burns of the Eastman Kodak Company at that time promised their full co-oper-

# GOING PLACES IS THIS 8 MM CLUB OF LOS ANGELES

Story of What Has Been Achieved in Three Years by Band of Enthusiastic and Harmonious Workers

By M. R. ARMSTRONG

ation, which we have always enjoyed and greatly appreciate.

## Fourteen Charter Members

It was with much trepidation on the part of the organizers that memorable first meeting was awaited, but to our great joy we had a "full house." Ten paid their dues and became charter members, making a total of fourteen members at the end of that first meeting.

Mr. Cadorette was made acting chairman, Mr. Clardy vice president, Courtney L. Dow secretary-treasurer and myself social chairman. There was much tedious work to be done that first year and Mr. Cadorette and

Mr. Dow spent endless working hours, as each better had to be separately typed—funds being very low.

However, this first year progressed rapidly and many very interesting and educational meetings were held. At this time we would like to mention the inspirational help we received from the then editor of American Cinematographer, C. J. VerHalen.

The final meeting of the year was held in the form of a banquet at the Cafe de Paris, in West Seventh street, Los Angeles, where over a hundred members and guests jammed the banquet room. The total membership at this time had risen to thirty-seven. Mr. Cadorette turned the meeting over to the incoming president, Dr. Henry A. Linek, who in turn presented his coworkers Earl Janda, vice president; Dr. Barnes G. Ward, secretary-treasurer, and Arthur Svenson, social chairman.

## Three in a Row

At this banquet meeting it was announced that Dr. F. R. Loscher, one of our charter members, had won the Grand International Prize Contest sponsored yearly by The American Cinematographer for his most outstanding film "Red Cloud Lives Again." This made the third consecutive year members of our little group had been honored by being proclaimed "world champions."

The 1936 club year started off with much enthusiasm and many most interesting speakers were obtained throughout the year to enlighten us on the intricacies of making better pictures. Among these were Behnhar Hall, Harry Dunick and Count Von Schoenfeldt. Several contests were held during the year, and a number of noteworthy pictures were made by the various members.

The year ended with a banquet held



John K. Walker, Vice President 8mm Club.



Dr. F. R. Loucher, President Film Club of Los Angeles.

at the famed Victor Hugo in Beverly Hills, when, due to the illness of President Link, the meeting was in charge of Vice President Earl Janda. There were forty-three members at the end of the second year.

The new officers who had been elected for the coming year were introduced at the meeting: Dr. F. R. Loucher, president; John E. Walter vice president, myself secretary-treasurer, and Alexander Leitch, chairman of the social committee.

#### Keeping Posted

One of the first undertakings of the new officers was the membership drive which was inaugurated and which has brought very fine results.

Several committees were appointed for the year, among which was the popular technical committee, the duty of which is to answer all queries of members regarding problems they encounter in taking pictures. This committee is composed of Messrs. Cadarsteph, Clardy, and Huon Vogel. The committee also acts in the capacity of critics, using the "Film Analysis Chart" which was introduced by the secretary.

#### News Committee Popular

Another popular committee appointed was the "News Items Committee," headed by C. G. Cornell, and the duty of which is to report on any interesting or outstanding news which may be published in the various amateur magazines.

Due to the great amount of work involved in the growing organization the secretary was authorized to purchase for the club a mimeograph machine to assist in running announcement letters, etc. This machine has proved invaluable.

President Loucher made the sugges-

tion that the club's monthly announcement letters might be "pepped" up a bit, and thus the idea of novel designs pertaining to the principal feature of each meeting came in color as a background for the letters was devised. Club Artist H. B. Clardy is responsible for the clever drawings which have been used.

#### Print Bulletin

Celluloid membership buttons were purchased by the club to be worn by the members during meetings. Each member's name is printed on his but-

ton, thus making it easier to become acquainted with fellow-members.

At the February meeting the "scoop" announcement was made that the secretary suggested and offered to get out a club publication to be printed at frequent intervals throughout the year. This suggestion was put before the meeting and the plan was unanimously adopted.

#### Club Journal a Hit

The secretary was appointed editor of this new magazine, which was titled *Thru the Filter*, and which is to be devoted to club activities and important announcements. The first issue was ready for distribution at the March meeting and was received enthusiastically. The four page paper has since been published every two months. A special Year Book is planned for the end of the year.

In order to facilitate the work involved in the secretarial and editorial positions the secretary was authorized to purchase a mimeoscope for the club. This has proved itself most useful in the art work necessary in the line of club duties.

Among the interesting meetings held during the past few months was one devoted to the principles of screen make-up. Max Factor's of Hollywood kindly sent us a young man who is regularly employed in the major studios as a make-up artist. The first demonstration given was the ageing of a young man by many years and also changing his type entirely by the addition of most "lifelike" whiskers.

This meeting proved so popular that



M. E. Arndtson, Secretary Film Club.

by popular request the following meeting was again devoted to make-up, but this time the demonstration was for "straight" studio make-up as used professionally.

#### Co-operation from Trade

The June meeting was also a popular one when the 8mm version of the famous picture of the silent era "The Covered Wagon" was procured for presentation that it might be used as a study for tiling, editing, etc.

During the months gone by of this

year the officers have endeavored to give the members interesting as well as educational meetings, and the present success of the club we believe is wholly due to the co-operation between the officers. We have many things planned for the remaining months of the club year which we hope will be enjoyed and will prove beneficial to all members.

We cannot end this little story of our club without giving a great deal of credit to the many Los Angeles firms which have backed us so wholeheartedly since the inception of the

club and who have so generously offered us fine prizes for our contests. Also, much credit must go to those men who have been responsible for the co-operation we have received through publicity in the way of complimentary write-ups in the various amateur moving picture magazines.

Since the first of the year we are very happy to report thirty-three new members, of which number five are women, making a total to date of 70.

The Los Angeles Eight Millimeter Club is going places!

## HOW SUGGESTION AIDS PRODUCTION

THE other day a cinefilming friend of mine remarked that he would like to tackle a certain subject, but didn't dare to because he lacked the necessary "production facilities."

Unfortunately, he was not a friend of sufficiently long standing to warrant my using the unrefined (but descriptive) retort his plant deserved. Besides, he takes his filming seriously.

Instead, I took him to see Robert

### Amateurs Like Professionals Sometimes Feel Compelled to Multiply 'Em—Just How the boys Big and Little Work It

Fisher's production, "Elephant Boy." In that picture is a first-class object lesson for every amateur filmer who feels that to get "production values" on the screen he must have homineous "production facilities."

As that production was made largely in India, by a British company, I have no direct information as to the circumstances of its making; but on the screen I saw evidence that more than hired Director Fisherly and Cinematographer Borredale were not at all times wallowing in production luxury.

Their problem was a story that required elephants in wholesale quantities. And while in certain quarters the impression exists that Hindi is the flavor of India, people who actually have been there report that elephants are neither too plentiful nor too cheaply available.

So the problem of showing Kipling's "ten, and ten, and many times ten" elephants could not be solved by merely telephoning the Mysore equivalent of Central Casting and saying you wanted three hundred elephants on the set at 9 a.m.

#### When 12 Equals 300

The production was too interesting to give me time to tally the maximum number of elephants shown in any one shot; but I would estimate the number at not more than a dozen or possibly fifteen. Yet they contrive to suggest two large herds—one of a couple of score used by the hunters,

and a wild herd numbering a hundred or more.

This was achieved by simple cinematic methods which can be followed just as successfully by non-professionals of the sixteen-and-eight brigade. They are simple matters of camera-angles and cutting.

First of all, in scenes where there were supposed to be a great number of elephants, almost invariably the angle was such that the camera neither looked down past the elephants nor had a chance to peer under their bellies. And the elephants are shown in close enough shots so that on either side there is usually an elephant partly in the frame and partly cut.

By what the psychologists would call subjective association the audience will naturally expect that beyond these partly-shown elephants there are yet more which could not be included in the shot. In the same way, where the camera shows one or perhaps two ranks of the beasts, one beyond the other in a side view, but cannot apparently include anything more distant, imagination will suggest rank after rank of elephants extending into the distance.

#### Angle Shots

In other shots, the elephants are seen moving more or less in single file along a jungle trail. If there were actually several hundred pachyderms any of us would break the monotony of an endless succession of marching



Since the camera doesn't show either the beginning or the end of this marriage column, imagination can make a trotout out of a few men. From "All Quiet" (Universal).

elephants by shooting a variety of angles—long-shots, medium shots, close-ups; head-on, three-quarter and side angles; looking up and looking down; close shots of feet, and so on.

Well, you could use the same treatment and get the same effect making these same shots of the same few elephants—and on the screen the effect would be that of a vast herd.

This is especially so if you take pains always to cut from one angle to the next before the last elephant in line had fully entered the frame.

In the same way it would be—and probably was—possible for the same few pachyderms to "double" as the hunters and the hunted. I believe this was done, for I cannot recall a single shot in which both groups of elephants were shown together. After all, unless you are personally acquainted with the beast, an elephant with a man on his back looks tame, while the same elephant minus man, howdah, etc., can, in the right surroundings, look wild!

To forestall criticism, I will admit there were several extreme long-shots which apparently show a vast herd of elephants at their "dance": but these were night-effects with little if any movement. While I do not know that they were produced by miniatures or other forms of special-effects cinematography, it is likely; any of several processes could have done so without the need of any elephants at all.

#### It Works in 16 and 8

Of course filming herds of elephants is rather out of the ordinary for most filmers, amateur or professional. But the principles involved work just as well for many other subjects, and with 16 mm. or 8mm. film running through the camera.

Just by way of proving this, let me cite the case of Dr. F. R. Looscher, president of the Los Angeles Film Club, and his Grand Prize winner in the American Cinematographer 1935 Contest. He felt the urge to tackle a "Covered Wagon" type of story. To do this, he had to show a wagon train, a band of Indians, and their attack on the pioneers.

His "production resources" consisted of a cast of four women and five men; three horses, two mules and one wagon; one bow and arrow, a couple of rifles and a revolver. He was able to borrow some authentic Indian costumes and to improvise some pioneer style men's outfits; the four women had to share two costumes between them.

On the screen you see a convincing large wagon train; a natural number of emigrants; and quite enough redskins to massacre them in approved style.

These effects were not produced by any black magic, but by simple under-

standing of what can be done with the camera.

The wagon train was presented in this fashion: First, a long shot of a wagon crossing the picture made with the camera panning slightly downward (to conceal a too modern background); then a close shot of the trail with a ridden horse following the wagon-tracks; next another downward close-up of horses' feet and wagon wheels as "another" wagon passed; an upward shot of a wagon; another downward-started medium shot of wagon wheels (cutting at about the top of the wheels) rolling through the picture while in the foreground a ridden horse passes by, and so on.

Though the same wagon and the same ridden horses figured every time, on the screen they seem different ones in each shot—and the result is a wagon train almost as big as the one James Cruze used in "The Covered Wagon."

#### Double-Exposed Indians

After the first few shots in which a single Indian is shown sighting the wagon train, signaling others, and groups of two or three braves ride to a rallying point, double exposure is called on to suggest a numerous tribe. As they prepare for the attack with a war dance, a conventional shot of two or three redskins commencing the dance is reinforced with a second exposure, apparently of other braves, also dancing.

With a variety of angles and exposures in this sequence, the three or four men actually available for these parts are multiplied to a large complement of howling warriors.

As they steal silently off to the attack another bit of simple camera trickery is used. A downward angle reveals the side of a little gully, upon which may be seen the shadows of three Indians moving in single file. A second later, the feet and legs of three more braves cross the picture at the top. Obviously, two columns of warriors!

Double and even triple exposures are used generously to show the attack. In the first exposure, perhaps, we may see the white men under their wagons, firing at the Indians; in the second exposure, the redskins, played actually by the same individuals, ride or run past, shooting arrows at the white men; a third exposure may consist only of close-ups of the feet of the Indians' horses galloping by.

In another scene, the galloping feet, the pioneer with his rifle, and a long shot of a woman and child with a burning wagon tell the story graphically.

#### Footing 'Em

This is all well enough for direct action scenes, but in the more placid sequence, before the attack, there is the problem of showing the wagon train encamped for the night—with but one wagon. This is solved by artful composition.

In several shots we see the end of a wagon at one side of the middle distance.

In another shot, we are apparently looking through one wagon at another. In the distance is one very genuine wagon; the foreground is framed in a curve of canvas which we imagine is the covered top of a second wagon, with a market all-housed across its opening. Both in composition and action, interest is deliberately centered here not on the veritable wagon in the distance, but on the suggested one in the foreground. In other words, the suggestion proved more compelling than the elaborate actual "prop!"

In a word, thanks to knowing how to use his camera to suggest as well as actually to show, Dr. Looscher made a prize picture with virtually no "production facilities" in either cast, properties, or suitable locations. And it had more real "production value" than many an elaborately produced sub-standard spectacle the makers of which had every imaginable physical asset but lacked the priceless cinematic ingredient of ingenuity.



How many elephants do you see? There are actually only twelve.

# INTERNATIONAL MEET SET FOR APRIL 6 AT COLUMBIA

Ninth Annual Movie Party Will Be Held  
March 24—Duncan Little to Guide Both

**D**ATES for the International Amateur Movie Show for 1938 and Duncan Little's Ninth Annual Movie Party have been set by their respective sponsors.

The Ninth Annual will take place Wednesday evening, March 23 next, in McMillin Academic Theater, Broadway at One Hundred and Sixteenth street, New York.

The International Movie Show will be given at Columbia University, in McMillin Theater, Wednesday evening, April 6—as a fortnight later than the Ninth Annual.

As a part of its series, Motion Picture Parade, Film Study, a division of Columbia University Extension, will sponsor the Ninth Annual Party. Selection of films for showing on this occasion as in the past will be left to a responsible jury. All program arrangements will be under the personal direction of Mr. Little.

There will be no prizes and no awards of any kind. Film Study will furnish a leader for each film selected for showing, to read "Selected for Exhibition at Duncan Little's Ninth

Annual Movie Party, under the Auspices of Film Study of Columbia University, March 24, 1938."

## All Amateurs Invited

All amateurs are cordially invited to submit films. There are no fees or dues. Further details may be had by writing Mr. Little, 33 West Sixty-seventh street, New York, or to Film Study, Columbia University, University Extension, New York.

The program for the International Show will be under the personal supervision of Duncan Little, member of the Amateur Cinema League, Institute of Amateur Cinematographers of England, Society of Amateur Cinematographers of Hollywood and the Metropolitan Motion Picture Club of New York.

Mr. Little is an amateur photographer of distinction. One of his films, "The Making of Canadian Homespun," has won honorable mention in England and Canada as well as in the United States. The American Society of Cinematographers cited for honorable mention two other

films, "The Circus Is in Town" and "The St. Maurice River Canoe Race."

At this First International Show films of outstanding merit and unusual interest will be screened. They will be selected from the prize winners in England, Scotland, Czechoslovakia, Austria, Australia, Holland, France, Japan, Canada and the United States.

No prizes will be awarded, but Film Study will award a Certificate of Merit to each film selected for screening and a leader to read "Selected for Exhibition at the International Amateur Movie Show, Columbia University, April 6, 1938." There are no fees for entry.

## International Rules

Film Study has prepared the following memoranda pertaining to the International Show.

1. Films submitted should portray some aspect or aspects of life in the country of origin.
2. Only amateur films will be screened. They may be either 16mm. or 8mm. (No reduction prints from 35mm. originals will be accepted.) They may be silent or sound (sound on film or scored with records). They may be black and white or color.

## 400-Foot Length Set

3. It is requested that films submitted approximate 400 feet in length. Exceptions to this will be made only for films which in the estimation of the appropriate national or local amateur organization are of unusual merit.

4. Films should be submitted through a local or national amateur organization. Generally speaking, Film Study cannot undertake to solicit films from individuals.

5. Since this is not a contest or prize competition, Film Study will not presume to dictate standards or to indicate judgments. In the event that a jury is needed, the Advisory Group of Film Study will be asked to settle.

6. Further information (as to closing date, insurance, date of return, customs clearance, etc.) may be had by addressing Film Study.



La Salle County, Texas, credits its roads with Caterpillar equipment, and on this installation the makers of this machinery saw a great opportunity to make some compelling sales moves. The Caterpillar camera car taken Fred E. Jolly of the company's advertising department and his field and Southwestern branch of over the country to film equipment actually at work in the field. The Caterpillar Tractor Company has long used motion pictures in its sales campaigns, and the company makes a goodly percentage of the equipment itself. Modern news reports are made from the 15 mm. machines and are used by stations and dealers. Hundreds of films (silent and sound pictures) are constantly at work making their sales contacts.

# FLYING FILMER TELLS OF MAKING AIR SHOTS

Always Uses Color But Never Filters  
with His 8mm Camera When Off Ground

By E. L. REMELIN, United Air Lines Pilot

**I**F YOU plan to go places by airline this summer don't forget to bring your cinebox along! No matter where you may be going you'll find new and different picture possibilities surrounding you when you travel in a modern airliner.

In this I speak from experience. Like most of the airline pilots I know, I'm a dying moviemaker. My little Filmo "double 8" flies with me on every trip as I skipper the big Mainliners back and forth between Los Angeles and San Francisco. Of course, I can't say I see it on every trip—but when I want it it is always there to catch the unusual shot.

Although I'm flying back and forth over the same route day in and day out, it doesn't in the least follow that I've filmed the scenes along the run once I'll have exhausted their picture possibilities. Quite the reverse! Each trip offers something just a little different—changes in lighting, weather and season each can give me a slightly different picture.

And there is always the chance of picking up some absolutely new shot on each trip. Some of the boys have caught scenes of railroad wrecks and highway smashups that make you really appreciate being up above it all in a comfortable airliner. I've filmed a few forest fires and the like myself.

## Color Makes Best Air Shots

I do all my filming in Kodachrome. Black-and-white is all right, but since you've seen a roll of color shot from the air you'll agree that, for aerial photography, color is the real thing.

Unless you hit just the right combination of lighting and filtering, black-and-white is likely to look rather flat. Color, on the other hand, really gives you a sense of being actually in the air. And since color—especially in 8mm—costs so little more than black-and-white it is by long odds the best thing to use for air shots.

Aerial filming isn't greatly different from making movies on the ground. The really important thing is expo-

sure. For my own shots I always use a photoelectric exposure meter and follow its readings to the letter. I've found them the only real guide to good aerial exposing.

It is a peculiar thing that in using a meter, as I do, you will get the best results by taking your reading with the "normal exposure" arrow rather than the "distant view" arrow. I've tried it both ways, and the normal exposure readings always gave me the best shots.

## No Filters for Color

Shooting black-and-white on Panchromatic film it may at times be advisable to use a filter which will cut through any slight atmospheric haze and perhaps increase your tonal contrast. But in shooting color I

have never found it worth while to use any type of filter.

Theoretically, I suppose one might expect that in shooting Kodachrome from a plane 11,000 feet in the air the haze filter would be helpful, but I haven't found it so, and I've noticed my unfiltered aerial shots looked much more natural than shots other people have made under similar conditions with filters.

Shooting from inside the cabin of the big new Mainliners you will be working anyway through a window of a special glass which minimizes the excess of ultra-violet which might otherwise make your color picture too strongly blue. This glass is clear and colorless, and the windows are amply large to give you plenty of freedom in picking camera angles.

## Good Camera Positions

In some of the earlier airliners not all of the seats were well situated for picture making; the forward ones especially were often obstructed to some extent by wings, landing gear, motors and so on. But in these ships every seat will give you a good camera position. The rear seats, which are well behind the wing, still give the most completely unobstructed view, but you can get satisfactory pictures even from the ones farthest forward.

The cabins of the Mainliners are large, well illuminated, and decorated in light colors, so if you wish you can get good shots of your fellow passengers inside the plane. Just the other day the stewardess on my ship told me after one run that one of our moviemaking passengers, in addition to making longshots of the scenery, had made several longshots of the cabin as a whole and then wandered up and down the aisle making close-ups of each fellow-traveler.

## Filming Story of Trip

If you want to make a really complete record of your air trip I would suggest getting to the airport about half an hour before your ship is scheduled to leave. That way you can have plenty of time to film the neces-



Photo E. L. Remelin

(Continued on Page 351)

# HOLLYWOOD FORUM HAS SUCCESSFUL CONFERENCE

Educators and Community Leaders Join Efforts to Further Work of Teaching Through Added Use of Motion Pictures

FOR two days last month, July 16 and 17, the amateur photographer came into his own in Hollywood. The occasion was the 1937 educational conference, the third annual gathering of the Hollywood Motion Picture Forum, in attendance at which on at least one occasion more than 100 were present.

The amateur came into his own because of the large number of films shown in the two days many of them were exposed by amateurs—that is, they were amateurs once. Some of them easily might qualify as pros, and very likely do.

The sessions opened at the auditorium of Bell and Howell, in La Brea at Melrose. The crowd was so pronounced the subsequent sessions were held at the Melrose School, but a block away.

The only exception to these was the showing Friday evening of Harry C. Pearson's "African Holiday," which due to an arrangement between Bell and Howell and RCA was projected in the receding stage of the latter company. All of the sessions were well attended.

The persons behind the forum are educators and other community leaders interested in films of educational value. Shown to those who attended the sessions were some remarkable examples of the type of pictures cited by the leaders of the forum as desirable. Several of these were furnished by major companies.

## Two Great Shorts

Two outstanding shorts were from Warner Brothers. These were "Give Me Liberty" and "Under Southern Skies." Both were in Technicolor. The former was the story of Patrick Henry, most movingly interpreted, especially in the delivery of his famous speech to his fellow-Virgians. Some of the best of the screen's character actors were to be seen in the cast.

"Under Southern Skies" was the story of the death of Stonewall Jackson, following his conference with General Lee. In its preparation and execution it fully matched its companion

M-G-M sent "Servant of the People," the story of the creation of the Constitution. Paramount, through Ralph Jester of the company's Educational Short Subjects Department, sent "Spirit of the Plains" and "Seeing Salem," respectively pertaining to although not descriptive of "The Plainsman" and "Maid of Salem."

"Face of Britain," produced by Paul Rotha, attracted much attention. It told the story of four areas of Britain in a way to impress the adult as well as the minor.

Dr. Roy Genestekorn of Los Angeles showed "The People of Japan," or 400 feet of 16mm he had exposed in out-of-the-way places in the country named. He had gone into the homes and houses of worship and pictured the people in their daily tasks and in the performance of their religious rites. The county authorities asked the privilege of making a duplicate of the film for the local schools and it was granted.

## Evans a Good Skipper

J. Farrell McDonald, director-actor, member faculty University of Southern California, presented "My Friend John Rogers," acted, photographed and recorded by students. It was the first effort of the group, but during the year to come it was expected six of these subjects would be produced.

One of the features of the conference was the showing of "African Holiday," photographed in Africa by Mr. and Mrs. Harry C. Pearson. Preceding the showing, Mrs. Leo B. Hedges, chairman State Motion Pictures, California Congress of Parents and Teachers, introduced Hal Hall, editor of the film, who in the illness of the producer described some of the work on the picture and in turn introduced Mrs. Pearson. The latter responded briefly and effectively.

The sessions were under the general guidance of Walter Evans of the Bell and Howell Company, which organization from the first has fostered and encouraged the officers of the conference in their work of promotion and distribution of educational films.

The 1937 theme of the conference

was "Uniting Scientific and Artists Developments in Education." Bruce Findlay, president of the forum, gave the address of welcome Friday morning.

The first speaker on the program was William Stoll of The American Cinematographer, who spoke on "Recent Developments in Photography." An extract of the address will be found on another page. Earl Thelen talked on "The Motion Picture Industry Today." Miss Marian Evans, director Visual Education Department, San Diego City Schools, told of "Advances in Audio-Visual Education."

## Work Saturday Afternoon

In the afternoon the speakers were Mrs. Alice Evans Field, public service department Association Motion Picture Producers and Distributors; Ralph Jester, Paramount, and Dr. Mettessel, Department of Psychology, USC.

Saturday morning brought two of the more notable addresses of the conference, the speakers being H. C. Sient of Eryl, whose subject was "Advances in Recording and Amplification," and Fred Orth, Faculty UCLA, who talked on "The Essentials of Educational Production." Mr. Orth following his talk showed a film on "The Silk Worm," which attracted much attention because of its evident painstaking effort in the making.

The program for Saturday afternoon also was of unusual interest. It may be taken for granted it would have to be to be able to hold until 5 o'clock a good sized audience on a perfect Saturday afternoon in July.

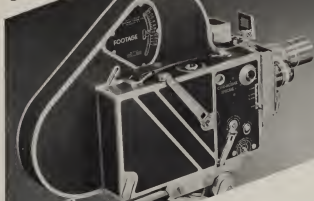
The speakers and subjects were Mary Chint-irion, assistant director Los Angeles County Audio-Visual Department, "Advances in Educational Film Distribution," H. W. Remersched, western district manager Bell and Howell, "Laboratory Advances in Developing and Printing Motion Pictures," and Barrett C. Kiesling, public relations department M-G-M, who described his contacts with edu-

(Continued on Page 243)



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**F**ADES, dissolves, double or multiple exposures, mask shots, slow motion analysis, animation—the Special takes all these advanced effects in its stride. Adjustable opening shutter, camera speeds from 8 to 64 frames per second, ground glass focusing by means of a reflex finder, one- and eight-frame hand cranks for forward or reverse film winding, single frame release, interchangeable 100- and 200-foot film chambers, individual foot meter, single frame counter, double lens turret, mask slot between lens and film—these features are all built into the basic model of this remarkable camera.

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**EASTMAN KODAK COMPANY, Rochester, N. Y.**

# LABS MAKE ADVANCES IN THEIR HANDLING OF FILM

**Bell and Howell Executive Describes  
Printing and Developing to Educators**

**By H. W. REMERSCHIED**

*Summary of Address to Motion Picture  
Forum at Recent Hollywood Conference*

**W**ITHIN the past two or three years considerable advancement has been made in the technique of printing and developing motion picture film. To eliminate any possibility of confusion I shall first discuss motion picture printing, which operation, in the handling of film, comes prior to developing.

It is assumed that everyone understands that the original negative is exposed in the camera and that this same negative is used in the making of what is termed "release prints" which are shown, or projected, in the various theatres throughout the country.

In any printing machine there is one major requisite, and that is that it is essential the film must be propelled past the printing aperture with an uniform motion as is possible to obtain.

Because of the sensitivity of the film any irregularity of the film motion would produce an uneven exposure of the print, which would be entirely objectionable, as this variation in density would be very much apparent on the screen. Consequently, every effort must be made to secure uniform film motion, and it has been in this direction that much refinement has been incorporated in the modern printing machine.

## **Filter Out Irregularities**

In a continuous film printer of the type commonly in use a large heavy flywheel is provided which insures a continuous, uninterrupted motion of the film, once sufficient momentum has been obtained to rotate the heavy flywheel at a definite speed.

In addition to the flywheel a mechanical filtering arrangement has been provided for filtering out all irregularities which might be created by the numerous gears and movable parts in the printer. The combination filter and flywheel has done much in the way of producing prints of uniform density.

The refinement in this direction was brought about due, in many respects,

to the stringent requirements of printing the sound track, but at the same time the laboratory technicians and cinema machinery manufacturers were also making every endeavor to improve the picture quality.

By the addition, therefore, of the precise filter arrangement and the heavy flywheel we have made it possible to secure perfectly even prints which were heretofore difficult to obtain, and while the result might not be apparent to the average audience one might easily select a modern print in preference to one three or four years old were you to have the opportunity to view them side by side on the same screen.

## **Each Scene Has Best**

During this meeting you may have had an opportunity of seeing some old prints, and if you have you will have noticed the uneven density which will be quite apparent to even the casual observer.

Another interesting angle and improvement on printing procedure has been in the method of changing the intensity of light for the various scenes. Each scene must necessarily be photographed under various and different lighting conditions, and because thereof it is necessary the printing machine be equipped with a variation of light intensity so that each scene may be printed to its very best advantage, insofar as density is concerned.

In the modern printing machine we have 30 light steps as compared to the 22 in the older type machines. This means that we have a much finer gradation of light and can secure on our final prints a quality which had heretofore been impossible.

The method of light change, and the additional light change steps combined with the flywheel and the filter arrangement for producing uniform film motion, have, in our estimation, added immeasurably in securing the very beautiful results which you can now see on almost any theatre screen.

Another refinement has been in the

printing sprocket, which propels the film. Before the advent of sound it was not necessary that the film motion be as critical as it is today, and for that reason the mechanism of the printing machine and the sprocket which conveys the film were necessarily made only with reasonable precision and not to the extreme accuracy which is now necessary.

## **Nearly Perfect Results**

In the printing machine which you now see the sprocket teeth which convey the film are manufactured to a tolerance of .0003, which represents an accuracy many times less than the thickness of a cigarette paper. By this comparison you may well imagine the accuracy and the precision of the sprocket on this machine which conveys the film.

In summary, the foremost refinements in printing, in our estimation, have been the development of a means for manufacturing a sprocket having the characteristic of precision such as previously mentioned. Also the application of a well known principle such as the flywheel and the mechanical filtering arrangement to insure uniform film motion.

These two refinements combined with the traveling nutties for creating the variable light changes have done much for the technicians in the studios to enable them to produce the nearly perfect results as we see them today.

In the development of motion picture film there has been considerable advancement made to secure clean, positive prints from the developing tank. Several years ago the development of motion picture film was done on what is known as a "rack" developing machine.

In wrapping the film around the rack it was inevitable that the film contacted it in many places which produced what were known as "rack marks". Rack marks were entirely too prevalent, and to anyone with a reasonably critical eye they were easily apparent on the screen. Many old

forms which are still projected today show evidence of having been developed on a machine of this type.

#### Film Travels Slowly

For the past few years machines have been used to develop film which convey the film on rollers through the various baths. Film is propelled uniformly, but because of the time required for developing the film is naturally conveyed through the machine quite slowly.

Because the film travels so slowly and always in one direction there is a backwash of the developing solution which trails over from one frame to the other. In the case of one scene having a heavy density and the next scene being very light there might be a tendency for the heavy density to wash back into the light scene.

You will observe this condition on some films which are shown on the screen today, and it is because of this back trailing already mentioned that the light scene might show trailing effect. This is quite apparent on outdoor scenes where the dark building would appear against a light background and the densities of the building would trail off into the sky, or background, creating a very undesirable effect.

This trailing from one frame to another has been termed "directional effect", and the name implies to the direction in which the film was traveling through the solution.

#### Back Trailing Stopped

Consequently, and because of the greater economy and more satisfactory results obtained by machine development the average laboratory tolerated "directional effect", because it had no means for overcoming it.

During the past year or two a method has been developed to overcome the condition of directional effect, and it has been accomplished by means of installing a high turbulence or agitation in the developer solution which is of such violence that the by-products of the developer are not given the opportunity to trail back along the film, but are taken away from the film back into the solution proper.

In other words, the turbulence or agitation created a condition in the developing machine whereby fresh developer contacted the film at all times and the by-products of developing were not permitted to trail back over the film as had been its action in the past.

One of the greatest advancements, therefore, in the development of motion picture film has been in the elimination of directional effect, and while it presented many obstacles it was finally eliminated.

## MAC-GURRIN PAINTINGS ON VIEW IN CINEMATOGRAPHERS' MAIN LOUNGE

THE three large paintings hanging in the American Society of Cinematographers' main lounge are the work of Buckley Mac-Gurrin, internationally known California artist. They are painted in oils on three-gly Philippine mahogany, and were executed in Paris about 1932.

Mac-Gurrin received his early art training in California. Upon being graduated in 1922 from the University of California he came to Hollywood and worked for Famous Players-Lasky, where he designed and supervised the construction of the seventeenth-century sailing ship used in the silent picture "To Have and to Hold." In September of that year he went to Paris, to study with Richard Miller, Bernard Naudin, Henri Matisse, Charles Guérin and Gino Severini.

Most of the following eleven years he spent in Paris, with frequent trips to Italy, Switzerland, Germany, Belgium and Austria. From 1934 to 1935 he exhibited a great deal in Paris, notably at the Salon des Tulleries and the Salon d'Automne. One of his paintings was acquired by the French Ministry of Fine Arts. He received a great deal of notice from French critics.

Mac-Gurrin returned to the United States in 1932. Fifteen of his paint-

ings, including a portrait of Miriam Hopkins, were used by Ernest Lubitch in "Design for Living." His paintings subsequently have been used in fifteen Paramount Class A productions.

He was in charge of designing accessories for Paramount's set dressing department for De Mille's "Cruel Intentions." His paintings have been shown locally at the Standard Galleries, Contemporary, the Hollywood Gallery of Modern Art, the Los Angeles Museum, the San Diego Museum, etc. Eight of his paintings are being shown by invitation during the month of August at the San Francisco Palace of the Legion of Honor. He was also invited to the Second Annual Exhibition of American Art at Rockefeller Plaza in New York and the Fine Arts Section of the Olympic Games in Berlin. He is an exhibiting member of the Foundation of Western Art.

The three paintings at present on view were obtained as a loan to the Society through Alfred Gills.

#### Mesall in Champ Try

John Mesall, A.S.C., champion cameraman golfer and also incidentally champion in any company, has been named on the Los Angeles team of four men to compete in the national links championship to be staged in San Francisco August 9 to 14. On Sunday, August 1, the team, composed of Bruce McCormick, Robert Snyder, John Mesall and George Lance, will play an exhibition game at Sunset Fields, teeing off at 1 p.m.

The men named will play as individual competitors for the national championship as well as for the team championship of the United States.

#### New Willoughby Bulletin

Willoughby's 119 West Thirty-second street, New York, announces as just off the press its Bargain List No. 737. It features many new items as well as second hand examples of equipment the company stores are offered at greatly reduced prices. A half dozen of the twenty-eight pages are devoted to lenses alone, while other pages are devoted to still cameras, film pack and plates, photo materials, amateur movie equipment, tripods, etc.

Camera, photographic monthly of Lucerne, Switzerland, announces the First International Competition of Artistic Photography Pictures 1937.

### Focusing . . . On the Nose

DR. BOY E. GERSTEN-KORN was entertaining a half dozen friends in his Los Angeles home. During the evening he had screened pictures he had exposed during a recent world tour, among them medium and close-up shots of the African lion on his own ground.

The conversation turned to focusing, of the importance among other photographic factors of a keen eye for estimating distance, and the practice as long followed by professionals of using a tape measure in order to secure exact results.

"Hit 'em right on the nose—that's focusing!" exclaimed a member of the group.

"This focusing on the nose really is great stuff—in a studio," quietly commented the doctor. "But there are times when a man might be a bit slow in planting the end of a tape measure right on the nose—of a lion!"

# 16 MM IDEAL MEDIUM FOR EDUCATIONAL PICTURES

From Paper Read Before Hollywood Motion  
Picture Forum Friday, July 16, 1937

By WILLIAM STULL, A.S.C.

ONE of the most truly significant recent developments in motion pictures as to be found right here in this auditorium. It is not any technical device or process, but the fact that here—and all over America—educators are not only thinking and talking, but actively working to put the motion picture to constructive use in the vast field of education.

To achieve this end with complete success demands, as you probably realize even better than I, that the pedagogues must in a majority of instances learn something of practical motion picture making. Of course, there always will be some subjects which can be filmed better or more completely by established professional agencies, but in many more instances the individual teacher can far better make his own films to suit his specialized needs.

And if these individually made films are to be worthwhile, they must be photographically as well as pedagogically good. For that reason it may be well to digress momentarily from the purely educational aspects of the problem to discuss the photo-technical phases.

## Comparing 16mm and 35mm

To begin with, let's rule out the idea of wasting time over the purely professional problems and advances of studio cinematography. Sixteen millimeter is economically far better suited to the needs of the individual maker of educational films; and one can do practically anything in 16mm. that can be done in 35 mm.—and do it in almost every case as well, and in some instances much better.

Recently a field instructor in a large university's agricultural department asked me what advantages would be gained by equipping his projected motion picture laboratory on a 35mm. basis rather than on 16mm. After considering his problem, the only difference I could find would be that if he made his plant a professional 35mm. studio he could spend more money and get less picture than he could with 16mm. Aside from that, the advantage lay definitely with the smaller film.

Modern 16mm. sound recording and

reproduction, while not nearly on a par with the latest 35mm. sound heard in the privacy of studio projection rooms and engineering laboratories, is certainly the equal of what we hear in the average theater. Sixteen millimeter color, as exemplified by Kodachrome, is definitely better than any but the very rarest examples of theatrical colorfilming.

## Composition Important

And in ordinary black-and-white camerawork almost the only thing that 35mm. can do which 16mm. cannot as a rule accomplish as well as in the field of special-effects camerawork—which is rarely if ever needed in instructional filming.

I think the main point of difference between professionally made 35mm. and non-professional 16mm. is in the fact that a professional cameraman has a surer grasp of the two great fundamentals of photography: lighting and composition.

Both of these in their higher developments require a certain inborn instinct; but for practical purposes both can, like a taste for oysters, to a certain extent be cultivated.

Most instructional films do not require composition in the artist's sense, but they require composition none the less. The student's attention must be centered on some definite object or action in every scene. Composition in its most practical form is basically a matter of directing attention where you want it to go.

Disregarding the several involved systems of composition which have

been offered by analytically minded artists, the simplest key to effective composition is to remember that in viewing a picture the eye normally enters at the lower left-hand corner and travels diagonally upward to the upper right. Any strong lines or masses—and I include in this strong highlights or shadows—crossing this imaginary diagonal will tend to divert the eye along the plane made by the conflicting line.

In general, the object of maximum interest should be fairly centrally along this left-to-right diagonal. If it cannot, little compositional guideposts should lead to it from that line; they need not be obvious, but they should be there. It is always a good idea before shooting a scene to study it in the finder to see how your eye travels; to see if it is kept in the desired path, and prevented also from slipping aimlessly out of the picture entirely.

## Tonal Contrasts

Another point relating to practical composition is the matter of tonal contrasts. Large dark masses can help concentrate attention on more important and perhaps smaller lighter areas or objects. For the same reason many of us have found our pot scenes weakened because some large, light-toned mass—possibly in the background or to one side—drew the audience's eyes away from what was actually the most important part of our scene.

Just notice the next time you look at a snapshot of a man in a white shirt and another one in a dark suit how your attention jumps to the white-shirted figure almost regardless of his position in the picture!

Movement does the same thing. An object that is moving will almost invariably steal the scene from a motionless object, regardless of relative size or positions. A man or an auto moving away back across the background can often divert attention from the objects in the foreground you really want seen.

Where there are several people in a scene their positions relative to the camera are important. All other things being equal, the person nearer

## CRAIG

SPLICER and REWINDS

### 8 or 16



CRAIG JUNIOR COMBINATION 1930  
Junior Splicer with two geared mounts  
21 mounted on 31 base

CRAIG MOVIE SUPPLY CO.  
1932 So. Olive St. Los Angeles, Calif.

the camera is likeliest to command the scene. This is especially so if the nearer one moves more positively. Lighting is equally important.

No matter what you are photographing, it is vital to remember that there should be two sides to everything—a highlight side and a shadow side. Normally speaking, the shadow side should receive about half as much light as the highlight side.

### Lighting Important

Working indoors, under artificial lights, this is easy, for you can place the lights on one side of your subject nearer than those on the other. This, rather than an absolutely symmetrical, and therefore flat, lighting is what is professionally known as a "balanced" lighting.

Working outdoors, with the sun as our light source, this matter of balancing light is not so easy. In non-theatrical work we cannot as a rule use the professional's elaborate means of diffusing sunlight with overhead screens and the like, but we can very often use reflectors. Placing our subject so the light strikes crosswise, instead of full face, we can use reflectors on the shadow side to throw a soft illumination back into the shadow side and give the luminous shadows we want.

Another professional trick which can well be used in serious sub-standard filming is the use of "booster" light. This can be done outdoors where one is near an electric power supply which can power ordinary indoor lighting units. One or more of our regular indoor lighting units can be used to take the place of reflectors in exterior scenes.

### Boosters an Advantage

These boosters can be used very advantageously when photographing people on shady porches and the like, where the background is strongly sunlit, and where we want to balance our foreground illumination somewhere near our more brilliant background.

In either interiors or exteriors the professional cameraman strives always to light the different planes of his picture in different intensities. These contrasted planes help to add an illusion of depth to our actually flat picture.

Tonal contrast is always helpful, too, in making people or objects stand out from their backgrounds. We all remember the childhood joke of saying a sheet of black paper represented a photograph of a sleeping negro in a coal-mine at midnight, or a sheet of white paper a polar bear sleeping in a snowdrift. You would lose the point if you put the negro in the snowdrift or the polar bear in the coal-mine—but you would get a better picture, for each would stand out vividly

### Our Thanks

I ENJOY your magazine immensely, as it covers the 16mm field better than any magazine I have found.

TOM MOORE.  
Knoxville, July 7, 1937.

against its contrasting background.

The same principle can be applied very practically to every-day movie-making. A person in a light costume will be more evident against a darker—not necessarily black—background, while dark-clad persons, who might merge into a background of dark walls or foliage will stand out if photographed in front of a lighter-toned background.

### About Filters

If you cannot control this situation, back-lighting—either with artificial lights indoors or reflectors or direct sunlight outside—will help by outlining the figure and thereby separating it from the background.

Another aid in this connection can sometimes be the use of color filters. Suppose we have the problem of a red object or a red-clad person in front of a green hedge. Presupposing the use of a panchromatic film, a green filter will usually tend to lighten the tone of the green foliage and darken the red object, while a red

filter would do the opposite, tending to darken the green and to lighten the red.

In general, there is one great axiom in using filters: to lighten any color, use a filter of the same color; to darken it, use a filter of a complementary color. These effects are roughly proportional to the density of the filter.

### Filter Factors

And here might be a good place to say a few words about the often misunderstood subject of filter factors. I have known more than one experienced non-professional filmer who was quite at home with filtering on his regular type of film but who encountered trouble (usually in exposure) using the same filters on a different type.

This is due to the fact that the filter factor is simply a numerical expression of the filter's relationship to one particular type of film. Suppose we have a filter that cuts out all of the blue light. On a film wherein the major part of the emulsion's light sensitivity lies in this blue-light region we will be eliminating most of the light capable of exposing the film if we use that filter; accordingly, we must compensate by greatly increasing the exposure—and we say that filter has a high factor.

### Lighting Children

On the other hand, suppose we have a film with a greater proportion of its overall sensitivity spread through the other colors. Here, the blue plays a relatively minor part. If we use this same blue-cutting filter we are removing only a minor portion of the useful light, we need to increase the total exposure far less, and we say that on that film the filter has only a low factor. It is entirely possible for a filter to have a factor of 40 on one type of film and of but 1.5 or 2 on another type.

This very indirectly recalls a trick of lighting which is used professionally when photographing such valued child-stars as Shirley Temple and the Dienne quintuplets. It can be fully as useful in filming any other children.

Children's eyes are highly sensitive to light. They cannot be fully natural when dazzled by bright lights, especially if they have to be looking into them.

My friend Arthur Miller, A.S.C., who photographs Shirley Temple, takes great pains always to light Shirley with the smallest possible amount of light. Instead of using big 5,000 watt units he uses baby spotlights almost exclusively. And so that Shirley need not look directly into the lamps he places them high up, so that in looking in their general direction, as the

(Continued on Page 348)

# GOERZ

## ENHANCE

### Your Performance With Kino-Hypar

The Kino-Hypar 1/235/5 series are Goetz Precision Lenses which give you the clearest, crisp definition in essential in good movie making. They are made in focal lengths from 18mm to 100mm and can be fitted in suitable focusing mounts to amateur and professional movie cameras.

Goetz accessories including the Goetz Effect Device, the Goetz Variable Field View Finder and the Goetz Reflex Finder are useful and precise instruments that enhance the pleasure of amateur cinematography.

### Literature on Request

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# HORTONS GIVE TROPHY TO LOS ANGELES 8 MM

**S**WEEPING aside all meetings held in the past, the regular meeting of the Los Angeles 8mm. Club held in the Auditorium of Eastman Kodak Company, 6706 Santa Monica Boulevard, July 23, was a great success.

Following the reading of the minutes Vice President John E. Walter introduced these new members: W. H. Kirby, Francis J. McEntee and Dr. Don Rush.

The editor distributed the July issue of *Thru the Filter*, Vol. 1, No. 3, to the members.

Due to absence from the city on account of vacations of several of our members the semi-annual contest that was to be held was postponed, and by unanimous vote it was decided to postpone any further contests until our

final one held in December of each year.

In quest for information in regards to the picnic that had been discussed, Al Leitch was called upon and having met with the governing officers, it was decided to postpone a picnic until a later date.

Leaders in the publication of The

American Cinematographer, George Blaisdell, editor, and William A. Stull, A. S. C., were handed honorary membership cards, on mutual consent of the board of governors.

John E. Walter was called upon, and on behalf of one of our members and his wife, presented to the club a permanent trophy in the form of a bronze column with a bronze motion picture camera placed on the top. Mr. Walter said the presentation is made in order to promote better vacation pictures and to make all wish for better pictures. The member each year who makes the most outstanding vacation travel picture is to have his name and date of presentation engraved upon the trophy, and is to have possession of the trophy for the ensuing year.

William L. Horton and wife are the donors of this trophy. Mr. Horton says they will get a great deal of enjoyment if their idea will create more interest in vacation reels.

The usual technical committee session in answering problems of the members was next in order, following which the ten minute intermission recess took place.

A member of the Los Angeles Cinema Club Dr. Roy E. Gerstenkorn, paid us a visit and was so kind as to show us his late travel picture entitled, "The People of Japan," and promised at a later date to show us pictures he has taken in Africa. We all will look forward to seeing these.

Member Ben Ray sent in some pictures which were taken by his brother while on location with Paramount during the filming of the popular production "I Met Him in Paris". The clever title used on the picture was "Big Daze in a Frigidaire," the scenes having been laid in heavy snow in Sun Valley, Idaho.

Mr. Cadarette topped off the evening by showing his recent film entitled, "The Magician," and some Type A Kodachrome interior shots.

M. R. ARMSTRONG,  
Secretary-Treasurer.

## Hollywood Forum

(Continued from Page 545)

ators in the course of his travels around the country.

Walter Evans, in summarizing the educational phase of the films that had been shown during the two days' conference, cited the fact that pictures had been projected demonstrating life as it is lived in Hawaii, England, Africa, Japan and Mexico, and recreating in most dramatic entertainment some of the more important factors in the history of the United States from 1776 to the present day.

Incidentally in the formal 284 registrations 15 states were represented.

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Perpetual trophy given to some Club of Los Angeles by Mr. and Mrs. William L. Horton. Each year the member making the best vacation travel picture will have his name engraved on the column and for the coming year will be the custodian of the trophy.

# ROPER CREATES UNIT TO PUSH FILM SALES

**S**ECRETARY ROPER has approved the recommendation of the Bureau of Foreign and Domestic Commerce for the creation of a motion picture division in that unit of the Department of Commerce designed more intensively to assist in the foreign sale of American-made motion pictures, unexposed film, motion picture equipment and photographic goods.

Nathan D. Golden, motion picture marketing specialist who directed the work previously performed in this field as a function of the electrical division of the bureau, has been named chief of the new unit.

The economic importance to the United States of foreign sales of motion pictures is evidenced by trade estimates showing that approximately 40 percent of the total annual income to American producers in this great industry results from the rental of films for exhibition in foreign countries.

The direct export trade of the United States in photographic and projection goods was valued at approximately \$21,000,000 in 1935, official statistics show.

When announcing the creation of the new unit in the Bureau of Foreign and Domestic Commerce, Secretary Roper stated the increasing popularity of American films in foreign countries has prompted the enlargement of the activities which the bureau previously performed in this field of trade promotion.

While the direct returns to the United States from foreign sales of motion pictures and motion picture equipment is of great importance, the indirect benefits accruing to the United States from the exhibition of American films in foreign countries is of still greater importance to the general export trade of the country, it was stated.

It is definitely known the utilization in this country of household articles, automobiles, industrial machinery, clothing and numerous other items as depicted in our motion pictures has been very influential in popularizing such products in foreign countries.

The good will and understanding engendered by the constant exhibition of our motion pictures before the peoples of other countries is of great value to the foreign trade of this country, he stated.

Because of the advantages result-

ing from the sales and exhibition of our motion pictures abroad, it was stated every effort will be made to extend the foreign sales of such products.

Mr. Golden, who is a member of the bar of the District of Columbia, has been associated with the motion picture industry for approximately



Nathan D. Golden

twenty-five years. He is a member of the Society of Motion Picture Engineers, American Projection Society and the Projection Advisory Council. In 1935 he was the recipient of the first annual gold plaque merit award offered by the Projection Advisory Council for contributions in the field of motion picture projection.

He is a World War veteran and was injured in action while with the American Expeditionary forces in France.

## Agfa Rings the Bell

The Agfa Anson Corporation has collated plates representing the company's magazine advertising for the current year and printed them in a portfolio of thirty-two pages and cover 12 by 15 inches over all. The plates range in size from 7 by 7 to as large as 9 by 11 inches.

It is a craftsmanlike job. And that goes for all the departments contributing to the result—the quality of the film which serves as the foundation, to the skill of the photographer who makes the exposure, and to the engravers and printers who have given of the best of their craft to preserve and to reproduce the artistic efforts of those who preceded them in the making of the book.

## Erpi President Looks In

Whitford Drake, president of Electrical Research Products, Inc., was in Hollywood during July on his first trip to the West Coast since assuming office.

"This is just a routine trip," stated Drake, "prompted perhaps by an urge to see the new buildings which we are erecting at Remains and Seward Streets, where all our activity will be centered after September 1."



## GENIUS

—The infinite capacity for taking pains was never more marvelled than in the work of Oskar Barnack, inventor of the Leica.

So carefully did he work so intelligently did he plan, so great was his craftsmanship that his original camera—the first Leica—embodied all the fundamental principles that have revolutionized modern photography. The original Leica is still, even by today's standards, a great camera.

Today's Leica, Model G with the Rapid Winder and the Leica Xenon 1:5 lens, is the miniature camera of perfection. Still compact still a miniature camera, it has condensed in its tiny cell all the essentials of the ideal all-purpose photographic instrument—flood plane shutter built in range finder, synchronized focusing super-speed lens. It splits a second into thousandths stops indoor action in ordinary critical light, takes action shots in full color.

If you are interested in real miniature camera photography—and you must be if you are interested in photography—you owe it to yourself to own the camera that started it all.

Write for full information and dramatic examples of Leica Photography to—FREE

LEICA, MADE IN GERMANY  
BY Oskar Barnack  
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## LEICA

THE ORIGINAL MINIATURE CAMERA

LEICA, MADE IN GERMANY BY Oskar Barnack

## 16 mm Ideal Medium

(Continued from Page 347)

action may require, she can look actually under their beams.

This can obviously be used in 16mm. filming quite as well. In fact, it can be done even more effectively, for the fastest 16mm. emulsions are very much faster than the fastest 35mm. emulsions, and many 16mm. cameras have larger shutter openings and let in more light per exposure than do 35mm. cameras, so one can actually use less light in sub-standard filming than would be needed in 16mm.

### Filming the Dionnes

I like to use a diffused light for front light on children, with possibly an undiffused beam crossed from side or back for a modeling highlight. This diffusion can be achieved with a simple sheet of tracing cloth hung in front of your lamp—not stretched tightly unless you have a frame that holds it a bit away from the lamp's shell, to allow ventilation.

Filming the Dionnes, Daniel B. Clark, A. S. C., used diffusers made of daylight blue gelatin. By experiment he found this gave a perfect photo-

graphic light but did not noticeably bother even a young and very sensitive infant. So successful was this that after Clark made the first Dionne feature film Dr. Dufosse insisted that the newsreel cameramen duplicate Clark's lighting installation and methods.

## Release 'Pledge My Heart'

A new 4-H club film, entitled "I Pledge My Heart," has been released for distribution by the U. S. Department of Agriculture. It depicts the activities of the National 4-H club camp in Washington. The picture weaves the activities of the national 4-H camp into a background of Washington's historical shrines.

Each year outstanding club members, two boys and two girls from each state, are selected as delegates to the National Camp on the basis of achievements in regular farm and household projects carried out in their respective clubs. The 4-H clubs—head, heart, health and hands—are sponsored by the Extension Division, Department of Agriculture.

## 38 Tons Equipment Used on One Universal Scene

THIRTY-eight tons of camera equipment was employed to film one scene in Universal's "100 Men and a Girl."

The scene represented the ball and stairway of the home of Leopold Stokowski, leader of the Philadelphia Symphony orchestra, who stars with Deanna Durbin in the production. It consisted of a semi-spiral stairway which wound around four sides of a set, and upon which stood a full symphony orchestra as it played Liszt's Second Hungarian Rhapsody under Stokowski's direction.

The weighty apparatus included the eighteen-ton camera crane built for Universal's "King of Jazz" some years ago, a ten-ton crane, and a "baby" eight-ton crane; four cameras with solid metal "blimps" and periscopes.

The monster crane was used to swing camera and director above the set while photographing. The smaller ones were used inside the set as close-ups of groups and individuals were recorded. Camera work was under the supervision of Joseph Valentine, A. S. C.

## J. Kinney Moore Captures Another Big Time Prize

J. Kinney Moore, S. A. C. member and maker of "Nite Life," which was awarded a special prize for outstanding special effects photography in The American Cinematographer's 1936 contest, has received notice another of his films has earned off top honors in a national contest sponsored jointly by Liberty and Pete Smith's MGM stock subject department.

His one-reel 16 mm. production "Prize Winner" has been awarded premier honors in Liberty's contest and a cash prize of \$500. It is understood the Liberty contest was to secure material suitable for professional remaking as a Pete Smith short.

## Argentine Sono Film

An Argentine production company, Argentine Sono Film, has announced it will make twenty feature pictures during the 1938 season, which is the most ambitious schedule yet attempted by a local producer.

The company is now arranging for two new studios, which will bring its total to seven. Trade papers also report negotiations are under way whereby Argentine Sono Film will control the production of another local company, Rio de la Plata.

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## FLYING FILMER TELLS OF MAKING AIR SHOTS

(Continued from Page 341)

sary atmospheric shots showing what happens before your ship takes off.

In all probability you will be able to get scenes of some other ship of the same type and the same airline as the one you will use. Letting it "double" for your ship, you can begin by showing it taxiing from the service hangars to the passenger loading gate and then film the preparations for the trip—the air-conditioning truck which pumps refrigerated air into the cabin to keep it cool until the take-off; loading express and mail; pilot, co-pilot and stewardess coming from the field office to take command; the passengers boarding the plane; the field attaches delivering the running orders; the okah signal from the field's control tower; and finally the take-off.

### Shooting the Take-Off

In filming the take-off, a follow-shot made with a telephoto lens is very effective. It always interests the layman to see a close shot of a big plane getting into the air and then retracting the landing wheels one after the other.

All of these shots will fit perfectly into the scenes you actually make on your trip. Once they are in the box you can find out which way your ship will be heading when in the air and plan accordingly to get a seat on the shady side, so you will not be troubled by reflections or flare on the window.

After that you can forget photography till you are in your seat. Then be ready to film the take-off. Shooting at a three-quarter forward angle, with the camera pointed slightly downward, is probably the best for take-offs, as it gives an impression of the plane's forward and upward movement.

### Two Miles Up

On most modern American airline runs the ships fly high—at an altitude of 10,000 feet or more. None the less, you can still get plenty of interesting shots of the country over which you are flying. Color shots flying high over them, broken clouds are very effective, especially if you can show the plane's shadow racing along over the clouds far below.

On some runs, like Western Air Express Los Angeles-Salt Lake City run, for instance, you will fly over notable places such as Boulder Dam. Here the pilot almost always will drop down closer and circle about a bit so the passengers on both sides of the ship can get a good view—and incidentally good pictures—of the huge dam and of Mead Lake behind it. Other runs passing over the Grand Canyon and similar scenic

features give you an equally good break.

Shots of your fellow passengers during the flight make interesting scenes, and there's plenty of room and light for them on most modern planes. Incidentally, don't forget that airline stewardesses will lend a decorative touch to anyone's picture!

### Intimate Interiors

Cloud effects and sunsets—particularly in color—are a never-ending source of fascinating scenes. One of my best shots is built up of successive short flashes of a sunset over San Francisco Bay. The plane was flying level, headed north, just as the sun set. As I flew along I held the camera handy, and every few moments I would expose a foot or so.

On the screen the effect is like a stop-motion shot of the sun sinking lower and lower, finally dropping into the Pacific behind the Golden Gate. The individual shots were made probably ten or a dozen miles apart; but between the two mile altitude and the camera's angle this was not noticeable.

Incidentally, just because our modern airlines cruise at speeds of about 200 miles an hour, don't imagine you will race past interesting scenes too fast to get a good picture. Two miles up, your movement isn't nearly so noticeable as it might seem. And if the ship is actually moving too fast for picture purposes you can do much to counteract this speed by panning against the plane's movement.

To complete the picture, as you approach the end of the plane's run, get aerial shots of your destination city and its airport, climaxing with the actual landing and the unloading of the passengers. When these scenes are properly cut and titled you will have a picture that is both pictorially effective and interesting enough to please any audience—even one of moviemaking professional pilots.

### Show New Sub-Titles

Assistant Trade Commissioner Joe D. Walstrom at Buenos Aires reports one American film distributor will soon offer its pictures with a new form of sub-title presentation.

Under the new system the words will appear on the screen just below the picture.

## For All-Around Satisfaction CHOOSE THE CHALLENGER SCREEN



**BRADED SURFACE**—Unless otherwise specified, the Challenger's surface is glass beaded, assuring the brightest, clearest pictures.

**QUICKLY SET UP**—Simply open the legs of the tripod and lift the screen from the case.

**RIGIDLY MOUNTED**—The square, slotted center rod of the tripod prevents the case from turning and throwing the picture out of focus.

**ADJUSTABLE HEIGHT**—The only tripod screen which offers a choice of three positions, in which the fully opened screen can be raised.

**EASILY CARRIED**—The Challenger folds compactly and weighs little. The 30" x 40" weighs only 11 lbs.

**DURABLY BUILT**—Handsomely finished and durably built to look right and serve well for many years to come.

Wherever you want to show, means, in your own home or in the home of your friend. The Challenger can be easily carried and instantly set up.

Compare prices by post and you will agree that the Challenger ALONE has all of the features you need for all around satisfaction. Purchase once for every requirement, from 16" x 18" up. See the Challenger and other Da-Lite Screens at your dealer's! Write for illustrated folder and new low price index. Da-Lite Screen Co., Inc., 2721 North Cleveland Ave., Chicago, Ill.

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**\$500 EQUIPMENT**

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sends word it will give a Prize to be awarded for the most unusual and interesting lighting-effect, regardless of subject or length of film (only 16mm film to be used):

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**VICTOR MASTER SILENT PROJECTOR**

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Model 22 Silent VICTOR Master Projector

Credit can be applied against purchase only of  
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in merchandise to be selected by contestant adjudged maker of film best in photographic technique and made entirely with Bell & Howell Cameras, either 8MM or 16MM.

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FILMS ONLY—NO DUPES—NO REDUCTION FROM 35MM**

### THE RULES

The contest is international and open only to genuine 8mm or 16mm amateurs or amateur clubs.

The contest ends at midnight November 30, 1937. Entries, mailed or expressed, later than that time will not be eligible.

Pictures submitted will be judged by photography, entertainment and/or story value, direction, acting, cutting and composition.

The decision of the judges, among whom there will be prominent cameramen, will be final. Announcement of the awards will be made as soon after the close of the contest as possible and checks and prizes sent to the winners.

Pictures may be submitted either by individual amateur movie makers or they may be submitted by amateur movie clubs. Each entrant must have his entry

or entries accompanied by a sworn statement, the blank for which will be forwarded to him to fill in.

Contestants may enter as many subjects as they desire. One entry blank will cover all subjects.

The American Cinematographer reserves the right not to declare a prize for any classification if in the opinion of the judges there is not a picture submitted sufficiently good to be classed as a prize-winner.

The American Cinematographer also retains the right to make duplicates of such prize-winning pictures as it may indicate for free distribution to clubs and amateur organizations throughout the world.

If you intend to enter the contest please send coupon on this page for official entry blank.

### AMERICAN CINEMATOGRAPHER

1782 No. Orange Drive  
Hollywood, California

Please send me one of your official entry blanks  
I intend to enter a (16mm 8mm) picture in your  
1937 contest. I understand my entry must be in  
your office not later than November 30, 1937.

Name . . . . .

Street . . . . .

Address . . . . .

Special—The American Cinematographer has been requested by Film Study of Columbia University to present for showing in Film Study's International Movie Show on April 6, 1938, that subject which the contest committee of The Cinematographer shall consider the outstanding film submitted in its competition.

Film Study of Columbia University desires to make it clear that its 1938 showing is an exhibit rather than a contest. It is anxious it be understood by all interested it is not conducting a prize competition. It aims to present an evening's entertainment of worthwhile outstanding amateur films from all over the world. That the individual moviemaker may have something to show for his pains it is planned to award a certificate of merit and a leader setting forth the fact of the honor conferred, but no prize.

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